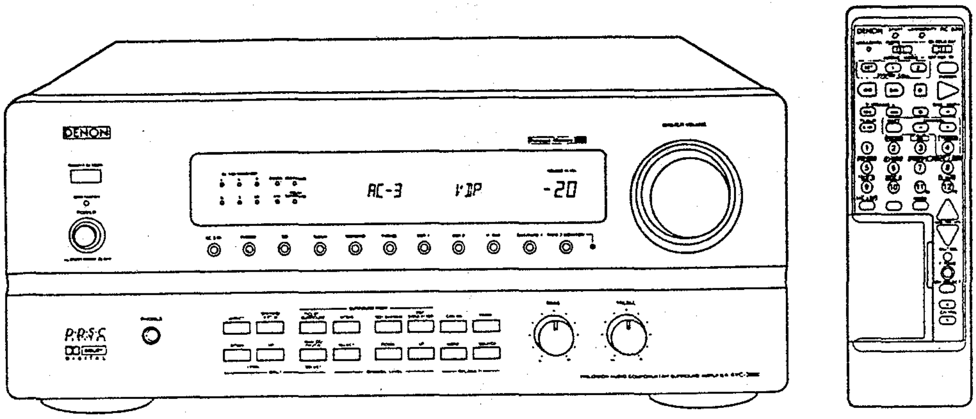
DENON

Hi-Fi AV Surround Amplifier

SERVICE MANUAL

MODEL AVC-3800

AV SURROUND AMPLIFIER



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- Some illustrations using in this service manual are slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

- **We greatly appreciate your purchase of the AVC-3800.**
- **To be sure you take maximum advantage of all the features the AVC-3800 has to offer, read these instructions carefully and use the set properly. Be sure to keep this manual for future reference should any questions or problems arise.**

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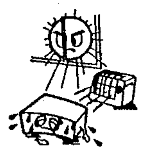
• ACCESSORIES

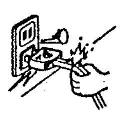
Check that the following parts are included in addition to the main unit:

① Operating instructions	1	④ R6P/AA batteries		2
② Service station list	1	⑤ AC power cord	(for Asia model)	2
③ Remote control unit (RC-820)	1		(for Taiwan R.O.C. model)	1

1 NOTE ON USE

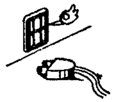


- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.

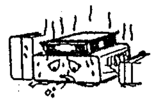


- Handle the power cord carefully.
  Hold the plug when unplugging the cord.

- Keep the set free from moisture, water, and dust.



- Unplug the power cord when not using the set for long periods of time.



*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.

- Do not let foreign objects in the set.

- Do not let insecticides, benzene, and thinner come in contact with the set.

- Never disassemble or modify the set in any way.

2 BEFORE USING

Pay attention to the following before using this unit:

- **Moving the set**
  To prevent short circuits or damaged wires in the connection cords, always unplug the power cord and disconnect the connection cords between all other audio components when moving the set.

- **Before turning the power switch on**
  Check once again that all connections are proper and that there are not problems with the connection cords. Always set the power switch to the standby position before connecting and disconnecting connection cords.

- **Store this instructions in a safe place.**
  After reading, store this instructions a safe place.

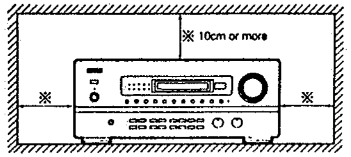
- **Note that the illustrations in this instructions may differ from the actual set for explanation purposes.**

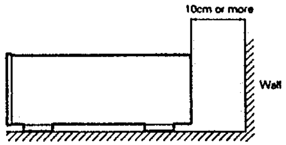
3 CAUTIONS ON INSTALLATION

Noise or disturbance of the picture may be generated if this unit or any other electronic equipment using microprocessors is used near a tuner or TV.
If this happens, take the following steps:

- Install this unit as far as possible from the tuner or TV.
- Set the antenna wires from the tuner or TV away from this unit's power cord and input/output connection cords.
- Noise or disturbance tends to occur particularly when using indoor antennas or 300 Ω/ohms feeder wires. **We recommend using outdoor antennas and 75 Ω/ohms coaxial cables.**

For heat dispersal, leave at least 10 cm of space between the top, back and sides of this unit and the wall or other components.





4 CAUTIONS ON HANDLING

- **Switching the input function when input jacks are not connected**
  A clicking noise may be produced if the input function is switched when nothing is connected to the input jacks. If this happens, either turn down the MASTER VOLUME control or connect components to the input jacks.

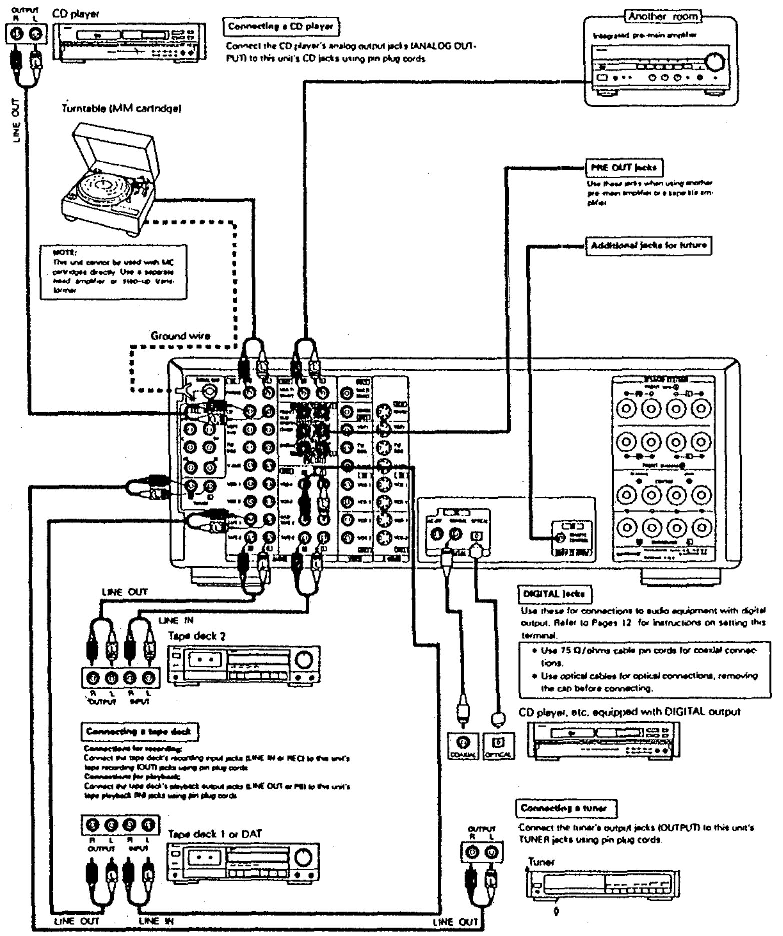
- **Muting of PRE OUT jacks and SPEAKER terminals**
  The PRE OUT jacks and SPEAKER terminals include a muting circuit. Because of this, the output signals are greatly reduced for several seconds after the power switch is turned on or input function, surround mode or any other set-up is changed. If the volume is turned up during this time, the output will be very high after the muting circuit stops functioning. Always wait until the muting circuit turns off before adjusting the volume.

- **Whenever the power switch is in the OFF state, the apparatus is still connected on AC line voltage.**
  Please be sure to unplug the cord when you leave home for, say, a vacation.

5 CONNECTIONS

- Do not plug in the power cord until all connections have been completed.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Insert the plugs securely. Incomplete connections will result in the generation of noise.
- Note that binding pin plug cords together with power cords or placing them near a power transformer will result in generating hum or other noise.
- Noise or humming may be generated if a connected audio equipment is used independently without turning the power of this unit on. If this happens, turn on the power of the this unit.

5–1 Connecting the audio components


OUTPUT
R
L
CD player
LINE OUT
Turntable (MM cartridge)
Ground wire
Another room
Integrated pre-main amplifier
LINE OUT
LINE IN
Tape deck 2
R
L
R
L
OUTPUT
INPUT
Tape deck 1 or DAT
R
L
R
L
OUTPUT
INPUT
LINE OUT
LINE IN
LINE OUT
COAXIAL
OPTICAL
CD player, etc. equipped with DIGITAL output
OUTPUT
R
L
Tuner

NOTE:
This unit cannot be used with MC cartridges directly. Use a separate head amplifier or step-up transformer.

Connecting a CD player

Connect the CD player's analog output jacks (ANALOG OUTPUT) to this unit's CD jacks using pin plug cords.

PRE OUT jacks

Use these jacks when using another pre-main amplifier or a separate amplifier.

Additional jacks for future

DIGITAL jacks

Use these for connections to audio equipment with digital output. Refer to Pages 12 for instructions on setting this terminal.

- Use 75 Ω/ohms cable pin cords for coaxial connections.
- Use optical cables for optical connections, removing the cap before connecting.

Connecting a tape deck

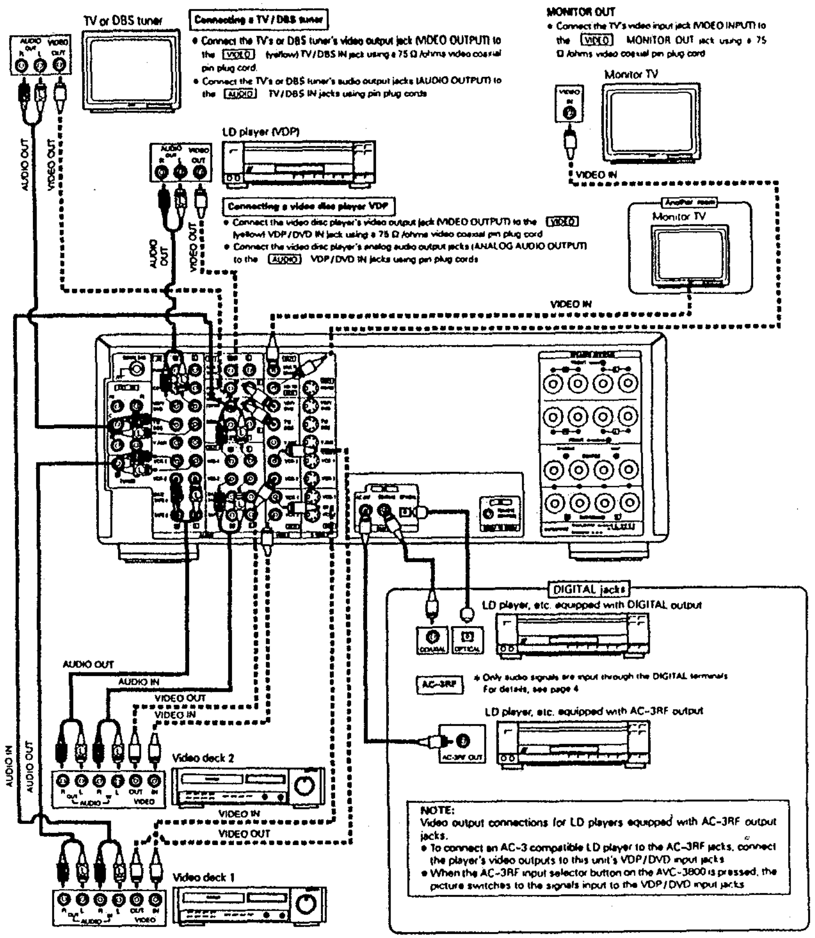
Connections for recording:
Connect the tape deck's recording input jacks (LINE IN or REC) to this unit's tape recording (OUT) jacks using pin plug cords.
Connections for playback:
Connect the tape deck's playback output jacks (LINE OUT or PB) to this unit's tape playback (IN) jacks using pin plug cords.

Connecting a tuner

Connect the tuner's output jacks (OUTPUT) to this unit's TUNER jacks using pin plug cords.

5–2 Connecting the video equipments

To connect the video signal, connect using a 75 Ω/ohms video signal cable cord. Using an improper cable can result in a drop in video quality.


AUDIO OUT
R
L
VIDEO OUT
TV or DBS tuner
AUDIO OUT
VIDEO OUT
LD player (VDP)
AUDIO OUT
VIDEO OUT
Monitor TV
VIDEO IN
VIDEO IN
Another room
Monitor TV
VIDEO IN
AUDIO OUT
AUDIO IN
VIDEO OUT
VIDEO IN
Video deck 2
AUDIO IN
AUDIO OUT
VIDEO IN
VIDEO OUT
Video deck 1
R
L
R
L
OUT
IN
AUDIO
VIDEO
DIGITAL jacks
LD player, etc. equipped with DIGITAL output
COAXIAL
OPTICAL
AC-3RF
LD player, etc. equipped with AC-3RF output
AC-3RF OUT

Connecting a TV / DBS tuner

- Connect the TV's or DBS tuner's video output jack (VIDEO OUTPUT) to the VIDEO (yellow) TV/DBS IN jack using a 75 Ω /ohms video coaxial pin plug cord.
- Connect the TV's or DBS tuner's audio output jacks (AUDIO OUTPUT) to the AUDIO TV/DBS IN jacks using pin plug cords

MONITOR OUT

- Connect the TV's video input jack (VIDEO INPUT) to the VIDEO MONITOR OUT jack using a 75 Ω /ohms video coaxial pin plug cord

Connecting a video disc player VDP

- Connect the video disc player's video output jack (VIDEO OUTPUT) to the VIDEO (yellow) VDP/DVD IN jack using a 75 Ω /ohms video coaxial pin plug cord
- Connect the video disc player's analog audio output jacks (ANALOG AUDIO OUTPUT) to the AUDIO VDP/DVD IN jacks using pin plug cords

- Only audio signals are input through the DIGITAL terminals For details, see page 4

NOTE:
Video output connections for LD players equipped with AC-3RF output jacks.

- To connect an AC-3 compatible LD player to the AC-3RF jacks, connect the player's video outputs to this unit's VDP/DVD input jacks
- When the AC-3RF input selector button on the AVC-3800 is pressed, the picture switches to the signals input to the VDP/DVD input jacks

Connecting the video decks

- There are two sets of video deck (VCR) jacks, so two video decks can be connected for simultaneous recording or video copying

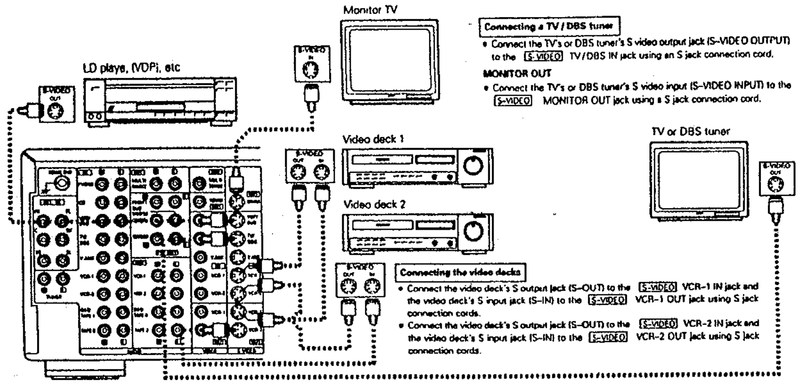
Video input / output connections:

- Connect the video deck's video output jack (VIDEO OUT) to the VIDEO (yellow) VCR-1 IN jack, and the video deck's video input jack (VIDEO IN) to the VIDEO (yellow) VCR-1 OUT jack using 75 Ω /ohms video coaxial pin plug cords

Connecting the audio output jacks

- Connect the video deck's audio output jacks (AUDIO OUT) to the AUDIO VCR-1 IN jacks, and the video deck's audio input jacks (AUDIO IN) to the AUDIO VCR-1 OUT jacks using pin plug cords
- Connect the second video deck to the VCR-2 jacks in the same way

5-3 Connecting the S-video jacks



Connecting a TV / DBS tuner

- Connect the TV's or DBS tuner's S video output jack (S-VIDEO OUTPUT) to the S-VIDEO TV/DBS IN jack using an S jack connection cord.

MONITOR OUT

- Connect the TV's or DBS tuner's S video input (S-VIDEO INPUT) to the S-VIDEO MONITOR OUT jack using a S jack connection cord.

Connecting the video decks

- Connect the video deck's S output jack (S-OUT) to the S-VIDEO VCR-1 IN jack and the video deck's S input jack (S-IN) to the S-VIDEO VCR-1 OUT jack using S jack connection cords.
- Connect the video deck's S output jack (S-OUT) to the S-VIDEO VCR-2 IN jack and the video deck's S input jack (S-IN) to the S-VIDEO VCR-2 OUT jack using S jack connection cords.

- **A note on the S input jacks**
  The input selectors for the S inputs and pin jack inputs work in conjunction with each other.
- **Precaution when using S-jacks**
  This unit's S-jacks (input and output) and video pin jacks (input and output) have independent circuit structures, so that video signals input from the S-jacks are only output from the S-jack outputs and video signals input from the pin jacks are only output from the pin jack outputs. When connecting this unit with equipment that is equipped with S-jacks, keep the above point in mind and make connections according to the equipment's instruction manuals.

5-4 Connecting the EXT. IN jack

The EXT. IN (EXTERNAL INPUTS) jack is used for the input of multi-channel audio, such as MPEG multi-channel.

1. Select the analog input using the ANALOG/DIGITAL button on the main unit.

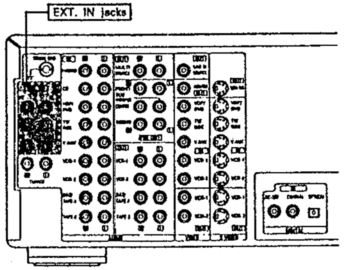
ANALOG/DIGITAL

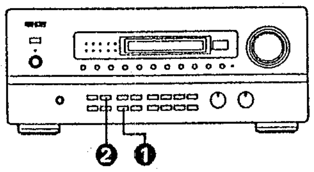
2. Press the STEREO/EXT. IN button on the main unit to set the play mode to "EXT. IN".

STEREO/EXT.IN

The playback mode switches as follows each time the button is pressed:

→ STEREO → EXT. IN ─┐





After setting, the input signals connected to the FL (Front Left), FR (Front Right), C (Center), SW (SubWoofer), SL (Surround Left) and SR (Surround Right) input jacks are output directly to the front (left and right), center, subwoofer and surround (left and right) speaker systems without passing through the surround circuit.

Surround Input terminals

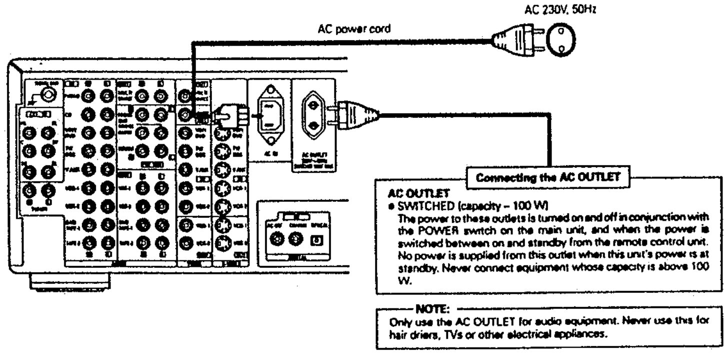
- If your component has only one surround output terminal, connect it to either the SL (surround left) or SR (surround right) terminal on the AVC-3800. The signals will automatically be divided between the left and right surround channels before being output.

NOTES:

- This jack cannot be operated in play modes other than the "EXT. IN" mode. Also, no signals are output from channels not connected to input jacks.
- The "EXT. IN" mode can be set for any function. To enjoy together with pictures, set this mode after selecting a function to which video signals are input.

5-5 Connecting the AC power cord and AC OUTLET(S)

■ ASIA MODEL ONLY



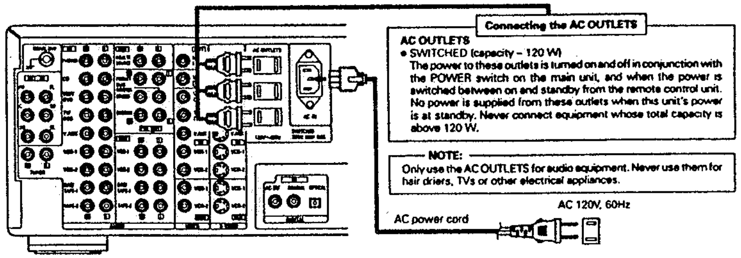
Connecting the AC OUTLET

AC OUTLET

- SWITCHED (capacity – 100 W)
  The power to these outlets is turned on and off in conjunction with the POWER switch on the main unit, and when the power is switched between on and standby from the remote control unit. No power is supplied from this outlet when this unit's power is at standby. Never connect equipment whose capacity is above 100 W.

NOTE:
Only use the AC OUTLET for audio equipment. Never use this for hair driers, TVs or other electrical appliances.

■ TAIWAN R.O.C. MODEL ONLY



Connecting the AC OUTLETS

AC OUTLETS

- SWITCHED (capacity – 120 W)
  The power to these outlets is turned on and off in conjunction with the POWER switch on the main unit, and when the power is switched between on and standby from the remote control unit. No power is supplied from these outlets when this unit's power is at standby. Never connect equipment whose total capacity is above 120 W.

NOTE:
Only use the AC OUTLETS for audio equipment. Never use them for hair driers, TVs or other electrical appliances.

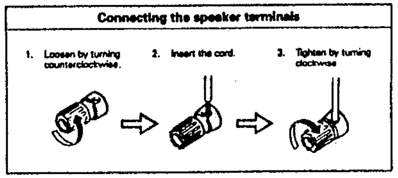
5-6 Speaker system connections

- Connect the speaker terminals with the speakers making sure that like polarities are matched (⊕ with ⊕, ⊖ with ⊖). Mismatching of polarities will result in weak central sound, unclear orientation of the various instruments, and the sense of direction of the stereo being impaired.
- When making connections, take care that none of the individual conductors of the speaker cord come in contact with adjacent terminals, with other speaker cord conductors, or with the rear panel.

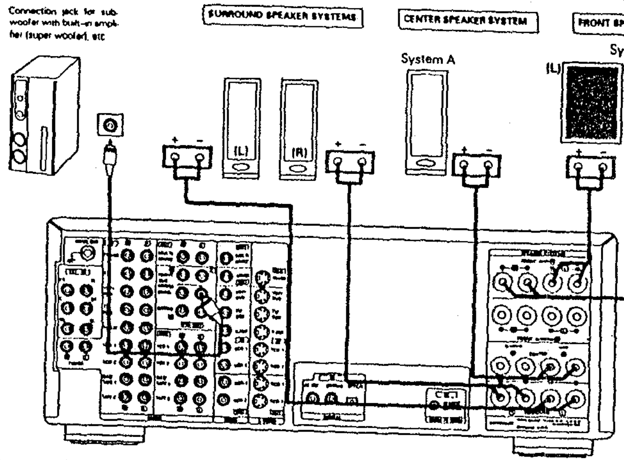
Speaker Impedance

- When speaker systems A and B are use separately, speakers with an impedance of from 8 to 16 Ω/ohms can be connected for use as front and center speakers.
- Be careful when using two pairs of front or center speakers (A + B) at the same time, since use of speakers with an impedance of less than 16 Ω/ohms will lead to damage.
- Speakers with an impedance of 8 to 16 Ω/ohms can be connected for use as surround speakers.
- The protection circuit may operate or damage may occur when speakers with an impedance outside of the above range are used.

Connecting the speaker terminals

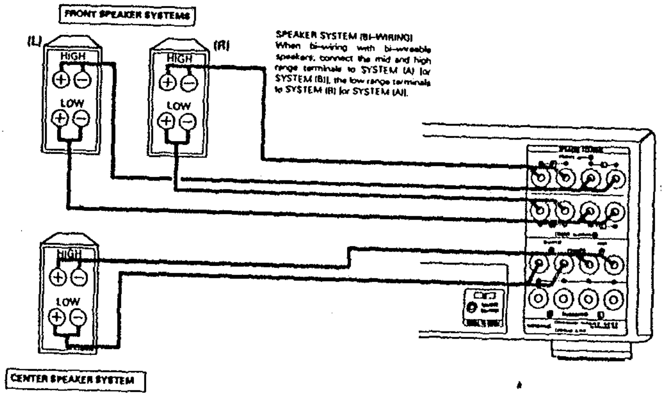

1. Loosen by turning counterclockwise.
2. Insert the cord.
3. Tighten by turning clockwise

- **Precautions when connecting speakers**
  If a speaker is placed near a TV or video monitor, the colors on the screen may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.



- About bi-wiring
  If your speakers have bi-wiring terminals, you can achieve higher quality sound by adding cords and using bi-wiring, as shown on the diagram below.
- *By connecting speaker systems* to both the speaker A and B terminals, you can play the same music source simultaneously in different rooms. (Use speakers with impedances of 16 Ω/ohms.)
- By adding an integrated amplifier, you can use the multi-source terminals to play the other music source simultaneously in different rooms. (See page 21, 22)

Bi-wiring procedure



SPEAKER SYSTEM (BI-WIRING)
When bi-wiring with bi-wireable speakers, connect the mid and high range terminals to SYSTEM (A) [or SYSTEM (B)], the low range terminals to SYSTEM (B) [or SYSTEM (A)].

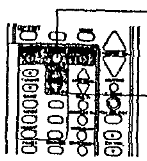
6 SYSTEM SETUP

After connections with other components have been made, make the various settings on the monitor using this unit's on screen display. These settings must be made in order to complete the AV system in your listening room.
Make the six settings described below.

① **Speaker Configuration**
② **Delay Time**
③ **Channel Level**
④ **Digital Inputs** (only when an AV component is connected to the digital input jacks)
⑤ **AC-3**
⑥ **On Screen Display**

NOTES:
- The output from the S MONITOR OUT terminal has priority for the on screen display. If you want to always output the on screen display signals to the video output, do not connect a cable to the S MONITOR OUT terminal.
- The on screen display is not displayed for the MULTI SOURCE OUT terminal.
- This model's on screen function is designed for high resolution monitor displays.
  Small characters may be difficult to read on small displays or low resolution TVs.

Use the following buttons on the remote control unit to make the settings:

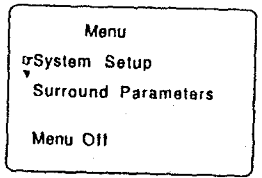


"ENTER" button
Press this to switch the display on the screen.
Also use this button to complete the setting on the screen.

"CURSOR" buttons
◁ and ▷ : Use these to move the cursors (◀ and ▶) to the left and right on the screen.
△ and ▽ : Use these to move the cursors (▲ and ▼) up and down on the screen

6-1 Before setting up the system

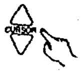
1. Turn on the power and press the ENTER button.
   The "Menu" screen (screen 1) appears on the monitor.



```
         Menu
▭System  Setup
▼
 Surround  Parameters

 Menu Off
```

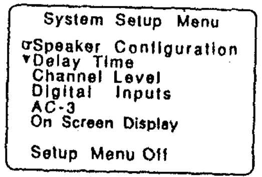
(screen 1)

2. Use the CURSOR buttons to specify "System Setup".



3. Press the ENTER button to switch the screen.

The "System Setup Menu" screen (screen 2) appears on the monitor.



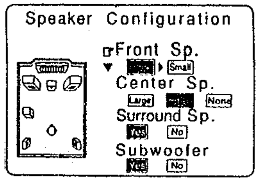
```
  System  Setup  Menu
▭Speaker  Configuration
▼Delay  Time
 Channel  Level
 Digital   Inputs
 AC-3
 On  Screen  Display

 Setup  Menu Off
```

(screen 2)

6-2 Setting the speaker configuration

1. Use the CURSOR buttons to specify "Speaker Configuration" from the "System Setup Menu" screen (screen 2).

2. Press the ENTER button.



Speaker Configuration

☞Front Sp.
▼ [illegible] ▸ Small
Center Sp.
Large [illegible] None
Surround Sp.
Yes No
Subwoofer
Yes No

(screen 3)

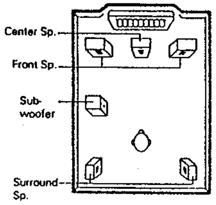
The "Speaker Configuration" screen (screen 3) appears on the monitor.

3. Use the CURSOR buttons and select the different types of speakers connected and their size parameters.

To select the speakers:

To select the parameters:

The selected parameters are highlighted.



■ **Parameters**

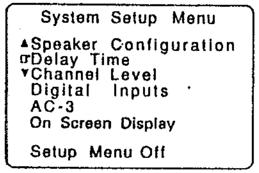
Large	Select this when using speakers that can fully reproduce low sounds of below 80 Hz.
Small	Select this when using speakers that cannot reproduce low sounds of below 80 Hz with sufficient volume. When this setting is selected, low frequencies of below 80 Hz are assigned to the subwoofer.
None	Select this when no speakers are installed.
Yes/No	Select "Yes" when surround speakers and a subwoofer are installed, "No" when they are not installed.

4. After the above selections are completed, press the ENTER button again. The "System Setup Menu" screen reappears.

6-3 Setting the delay time

Input the listening position and the distance of the different speakers.

1. Use the CURSOR buttons to specify "Delay Time" from the "System Setup Menu" screen (screen 4).



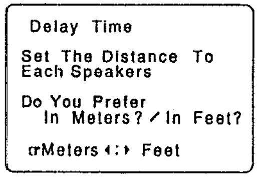
System Setup Menu

▲Speaker Configuration
☞Delay Time
▼Channel Level
Digital Inputs
AC-3
On Screen Display
Setup Menu Off

(screen 4)

2. Press the ENTER button.

The "Delay Time" screen (screen 5) appears on the monitor.



Delay Time

Set The Distance To
Each Speakers

Do You Prefer
In Meters? / In Feet?

☞Meters ◂:▸ Feet

(screen 5)

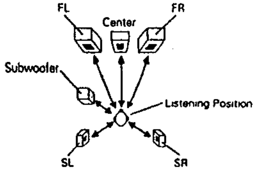
3. Use the CURSOR buttons to specify the unit of distance.

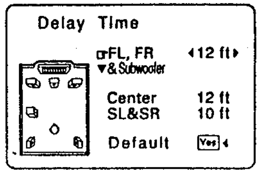
NOTE: The settings are reset to their initial values when switching between meters and feet.

4. Use the CURSOR buttons to input the listening position and the distance of the different speakers. (screen 6-A)

To select the speakers:

To select the distance:





Delay Time

☞FL, FR ◂12 ft▸
▼& Subwoofer

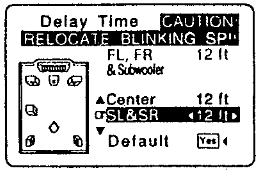
Center 12 ft
SL&SR 10 ft

Default Yes ◂

(screen 6-A)

* Select "Default" to return to the initial settings (refer to page 14).

5. After the above selections are completed, press the ENTER button again. The "System Setup Menu" screen reappears. This procedure automatically sets the optimum surround delay time for the listening room.



Delay Time CAUTION
RELOCATE BLINKING SP
FL, FR 12 ft
& Subwoofer

▲Center 12 ft
☞SL&SR ◂12 ft▸
▼
Default Yes ◂

(screen 6-B)

* If you set an invalid distance, a CAUTION notice, such as screen 6-B will appear. In this case, please relocate the blinking speaker(s) so that its distance is no larger than the value shown in highlighted line. Then press the ENTER button again.

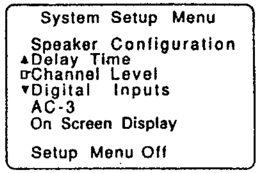
* Set in such a way that the distance to the center speaker is the same as or up to 5 feet (1.5 meters) shorter than the distance to the front left and front right speakers and the subwoofer.

* Set in such a way that the distance to the surround left and right speakers is the same as or up to 15 feet (4.5 meters) shorter than the distance to the front left and front right speakers and the subwoofer.

6-4 Setting the channel level

Use test tones to adjust the volume of the different speakers.

1. Use the CURSOR buttons to specify "Channel Level" from the "System Setup Menu" screen. (screen 7)



System Setup Menu

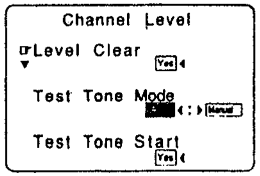
Speaker Configuration
▲Delay Time
☞Channel Level
▼Digital Inputs
AC-3
On Screen Display

Setup Menu Off

(screen 7)

2. Press the ENTER button.

The "Channel Level" screen (screen 8) appears on the monitor.



Channel Level

☞Level Clear
▼ Yes ◂

Test Tone Mode
[illegible] ◂:▸ Manual

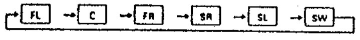
Test Tone Start
Yes ◂

(screen 8)

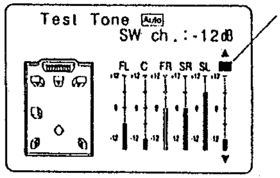
3. Use the CURSOR buttons to select "Test Tone Mode", then select "Auto" or "Manual".

4. Use the CURSOR buttons to select "Test Tone Start", then select "Yes".

5. a. If the "Auto" mode is selected:
   Test tones are automatically emitted from the different speakers.
   The test tones are emitted from the different speakers in the following order, at 4-second intervals the first time and second time around, 2-second intervals the third time around and on:



   Use the CURSOR buttons to adjust all the speakers to the same volume. (screen 9)



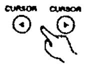
(screen 9)

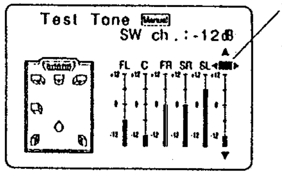
The test tone is emitted from the speaker whose indicator is highlighted.

   b. If the "Manual" mode is selected:
   Use the cursor buttons to select the speakers from which to emit the test tones and adjust the volume. (screen 10)

   To adjust the volume:

   To select the speaker:





(screen 10)

The test tone is emitted from the speaker whose indicator is highlighted.

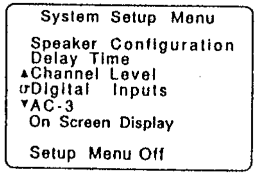
The level of each channel should be adjusted to 75 dB (C-weighted, slow meter mode) on a sound level meter at the listening position.
If a sound level meter is not available adjust the channels by ear so the sound levels are the same. Because adjusting the subwoofer level test tone by ear is difficult, use a well known music selection and adjust for natural balance.
NOTE: When adjusting the level of an active subwoofer system, you may also need to adjust the subwoofer's own volume control.

6. After the above settings are completed, press the ENTER button again.
   The "System Setup Menu" screen (screen 2) reappears.
   To cancel the settings, select "Level Clear" and "Yes" on the "Channel Level" screen, then make the settings again.
   NOTES:
   - The output channel levels for all the surround modes are set to the same conditions when the channel level setting on the system setup menu is conducted.
   - When the level clear operation is performed, all channel levels for all modes are set to 0 dB.

6-5 Digital inputs setup

Input the types of components connected to the digital input terminals.

1. Use the CURSOR buttons to specify "Digital Inputs" from the "System Setup Menu" screen. (screen 11)



System Setup Menu

Speaker Configuration
Delay Time
▲Channel Level
☞Digital Inputs
▼AC-3
On Screen Display

Setup Menu Off

(screen 11)

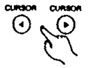
2. Press the ENTER button.

   The "Digital Inputs Setup" screen appears. (screen 12)

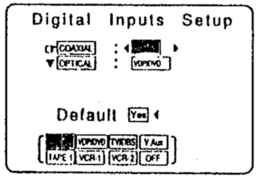
3. Use the cursor buttons to input the types of components connected to the digital input terminals.

   To select the input terminal:

   To select the type of component:



   * Select "OFF" if nothing is connected.



Digital Inputs Setup

☞COAXIAL : ◀■ ▶
▼OPTICAL : VDP/DVD

Default Yes ◀

[■ | VDP/DVD | TV/DBS | V.Aux]
[TAPE 1 | VCR-1 | VCR-2 | OFF]

(screen 12)

   Select "Default" to return to the initial settings (refer to page 14).

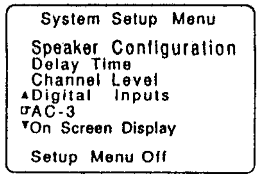
4. After the above settings are completed, press the ENTER button again.
   The "System Setup Menu" screen reappears.

NOTE:
PHONO, TUNER and TAPE-2 cannot be selected at "digital input terminal setting".

6-6 Dolby Digital AC-3

When playing Dolby Digital AC-3 sources, the input level is corrected automatically.
Set the dialog normalization function.

1. Use the CURSOR buttons to specify "AC-3" from the "System Setup Menu" screen. (Screen 13)



System Setup Menu

Speaker Configuration
Delay Time
Channel Level
▲Digital Inputs
☞AC-3
▼On Screen Display

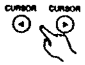
Setup Menu Off

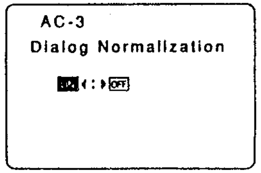
(screen 13)

2. Press the ENTER button.

   The "AC-3" screen appears. (Screen 14)

3. Use the CURSOR buttons to select "ON" or "OFF".





AC-3
Dialog Normalization

■◀ : ▶OFF

(screen 14)

4. After the above settings are completed, press the ENTER button again.
   The "System Setup Menu" screen reappears.

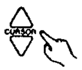
When playing Dolby Digital AC-3 sources

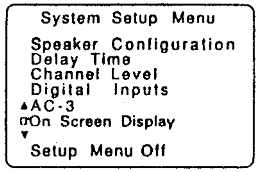
NOTE: If dialog normalization is set to "OFF", it may not be possible to set the master volume to greater than −5 dB, depending on the number of speakers and the output channel level setting.

6-7 On Screen Display

"ON" or "OFF" can be selected for functions other than the ones on the menu screen.

1. Use the CURSOR buttons to specify "On Screen Display" from the "System Setup Menu" screen. (screen 15)





System Setup Menu

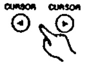
Speaker Configuration
Delay Time
Channel Level
Digital Inputs
▲AC-3
☞On Screen Display
▼
Setup Menu Off

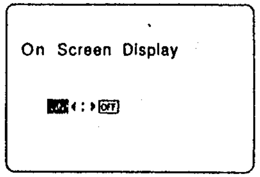
(screen 15)

2. Press the ENTER button.

   The "On Screen Display" screen (screen 16) appears on the monitor.

3. Use the CURSOR buttons to select "ON" or "OFF".





On Screen Display

■◀ : ▶OFF

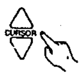
(screen 16)

4. After the above settings are completed, press the ENTER button again.
   The "System Setup Menu" screen reappears.

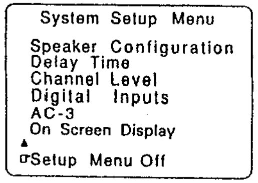
* This completes the system setup operations. Once the system is set up, there is no need to make the settings again unless other components or speakers are connected or the speaker layout is changed.

6-8 Operation after completing system setup

1. Use the CURSOR buttons to specify "Setup Menu Off" from the "System Setup Menu" screen. (screen 17)



2. Press the ENTER button twice to turn off the on screen display.



System Setup Menu

Speaker Configuration
Delay Time
Channel Level
Digital Inputs
AC-3
On Screen Display
▲
☞Setup Menu Off

(screen 17)

■ SYSTEM SETUP DEFAULT VALUE

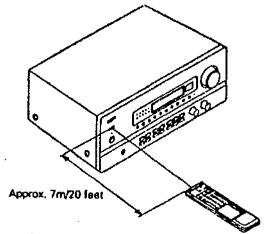
① SPEAKER CONFIGURATION	Front SP Small		Center SP Small	Surround SP Yes		Subwoofer Yes
② DELAY TIME	FL & FR 12 ft (3.6 m)		Center 12 ft. (3.6 m)	SL & SR 10 ft. (3.0 m)		Subwoofer 12 ft. (3.6 m)
③ CHANNEL LEVEL	FL 0 dB	FR 0 dB	C 0 dB	SL 0 dB	SR 0 dB	SW 0 dB
④ DIGITAL INPUTS	COAXIAL. CD			OPTICAL: VDP/DVD		
⑤ AC-3	Dialog Normalization: ON					
⑥ ON SCREEN DISPLAY	ON					

Playback with the above setting is possible upon shipment from the factory and after initializing (refer to page 28).

7 REMOTE CONTROL UNIT

Following the procedure outlined below, Insert the batteries before using the remote control unit.

■ Range of operation of the remote control unit



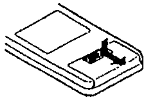
Point the remote control unit at the remote control sensor as shown on the diagram at the left.

NOTES:

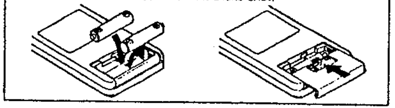
- The remote control unit can be used from a straight distance of approximately 7 meters/20 feet, but this distance will shorten or operation will become difficult if there are obstacles between the remote control unit and the remote control sensor, if the remote control sensor is exposed to direct sunlight or other strong light, or if operated from an angle.
- Neon signs or other devices emitting pulse-type noise nearby may result in malfunction, so keep the set as far away from such devices as possible.

■ Inserting the batteries

1. Open the bottom cover of the remote control unit and remove the battery cover.



2. Insert the two R6P/AA batteries, matching the ⊕ and ⊖ marks on the batteries with those in the case. Close the bottom cover until it clicks shut.



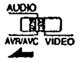
NOTES:

- Use only AA, R6P, UM-3 batteries for replacement.
- Be sure the polarities are correct. (See the illustration inside the battery compartment.)
- Remove the batteries if the remote control transmitter will not be used for an extended period of time.
- If batteries leak, dispose of them immediately. Avoid touching the leaked material or letting it come in contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.
- Have replacement batteries on hand so that the old batteries can be replaced as quickly as possible when the time comes.
- The codes that have been learned may be lost if removed batteries are not replaced within about 5 minutes.

7-1 System code buttons

DENON remote-controllable audio components can be controlled using this unit's remote control unit. Note that some components, however, cannot be operated with this remote control unit.

1. Set to slide switch to "AUDIO" ("AVR/AVC").

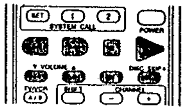


2. Set the slide switch to the position for the component to be operated (CD, DECK or DAT). The tuner can be oprated in any position.

CD DECK DAT
VDP VCR TV

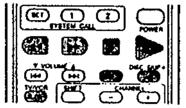
3. Use the buttons shown below to operate the audio component. For details, refer to the respective component's manual.

a. **For CD players and DATs**



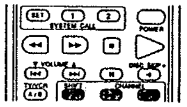
◀◀, ▶▶ : Manual search (reverse and forward)
■ : Stop
▶ : Play
|◀◀, ▶▶| : Auto search
II : Pause
DISC SKIP + : Disc selection (CD changer only)

b. **For tape decks (DECK)**

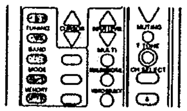


◀◀ : Reverse
▶▶ : Forward
■ : Stop
▶ : Forward play
II : Pause
A/B : A/B deck selection
◀ : Reverse play

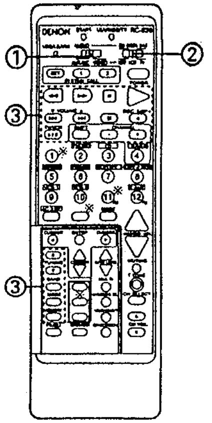
c. **For tuner**



SHIFT : Preset channel range selection
CHANNEL + – : Preset channel up/down



TUNING ▲, ▼ : Tuning up/down
BAND : AM/FM reception band selection
MODE : AUTO/MONO selection
MEMORY : Preset memory

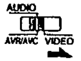


※These buttons does not function. (Some buttoons can be used by using the preset memory or the learning function.)

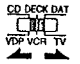
7-2 Preset memory

DENON and other makes of components can be operated by setting the preset memory for your make of video component. **Operation is not possible for some models, however. In this case use the learning function (see page 17, 18) to store the remote control signals.**
For instructions on clearing the presettings stored in the preset memory, see page 18.

1. Set the slide switch to "VIDEO".

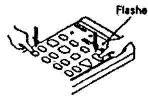


2. Set the slide switch to the component to be registered (VDP, VCR or TV).



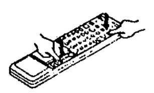
(Keep the POWER button pressed in when performing steps 3 and 4.)

3. Holding in the POWER button, press the button for the corresponding manufacturer in block A. (Refer to Table 7-2.)



The LEARNED/TX LED flashes.

4. Next, while holding in the POWER button, press the button for the code in block B. (Refer to Table 7-2.) The operation is completed when the LEARNED/TX LED lights.



5. To continue registering other components, repeat steps 2 to 4.

This remote control unit can be used to operate components of other manufacturers without using the learning function by registering the manufacturer of the component as shown on Table 7-2 (refer to page 16).

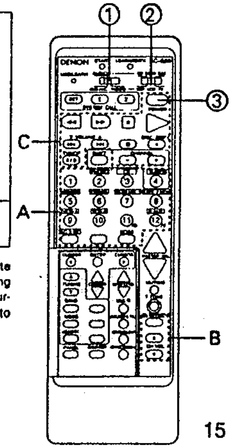


Table 7-2: Combinations of Personal System Codes for Different Manufacturers

"VDP"

A \ B	CH SELECT (CH SELECT)	▲ CH VOL (CH VOL.)	CH VOL ▼ (CH VOL.)
①	DENON A	DENON B	DENON C
② (PHONO)	—	—	—
③ (CD)	MITSUBISHI	—	—
④ (TUNER)	PANASONIC	—	—
⑤ (VDP/DVD)	—	—	—
⑥ (TV/DBS)	SONY A	SONY B	SONY C
⑦ (DAT/TAPE-1)	PIONEER	—	—
⑧ (TAPE-2MON)	—	—	—
⑨ (VCR-1)	SANYO	—	—
⑩ (VCR-2)	SHARP	—	—
⑪ /0 (V.AUX)	—	—	—
⑫ /E (V.AUX)	PHILIPS	—	—
AC-3RF (AC-3RF)	RCA	—	—
	—	—	—
MODE (MODE)	MAGNAVOX	—	—

"VCR"

A \ B	CH SELECT (CH SELECT)	▲ CH VOL (CH VOL.)	CH VOL ▼ (CH VOL.)
①	—	—	—
② (PHONO)	HITACHI A	HITACHI B	HITACHI C
③ (CD)	MITSUBISHI A	MITSUBISHI B	MITSUBISHI C
④ (TUNER)	PANASONIC A	PANASONIC B	—
⑤ (VDP/DVD)	JVC (VICTOR)A	JVC (VICTOR)B	—
⑥ (TV/DBS)	SONY A	SONY B	SONY C
⑦ (DAT/TAPE-1)	PIONEER	—	—
⑧ (TAPE-2MON)	TOSHIBA A	TOSHIBA B	—
⑨ (VCR-1)	SANYO A	SANYO B	—
⑩ (VCR-2)	SHARP A	SHARP B	—
⑪ /0 (V.AUX)	NEC A	NEC B	NEC C
⑫ /E (V.AUX)	PHILIPS A	PHILIPS B	PHILIPS C
AC-3RF (AC-3RF)	RCA A	RCA B	—
	GENERAL ELECTRIC A	GENERAL ELECTRIC B	—
MODE (MODE)	MAGNAVOX A	MAGNAVOX B	MAGNAVOX C

"TV"

A \ B	CH SELECT (CH SELECT)	▲ CH VOL (CH VOL.)	CH VOL ▼ (CH VOL.)
①	DENON	—	—
② (PHONO)	HITACHI A	HITACHI B	—
③ (CD)	MITSUBISHI A	MITSUBISHI B	MITSUBISHI C
④ (TUNER)	PANASONIC	—	—
⑤ (VDP/DVD)	JVC (VICTOR)	—	—
⑥ (TV/DBS)	SONY A	—	—
⑦ (DAT/TAPE-1)	PIONEER	—	—
⑧ (TAPE-2MON)	TOSHIBA	—	—
⑨ (VCR-1)	SANYO A	SANYO B	—
⑩ (VCR-2)	SHARP	—	—
⑪ /0 (V.AUX)	NEC A	NEC B	NEC C
⑫ /E (V.AUX)	PHILIPS A	PHILIPS B	PHILIPS C
AC-3RF (AC-3RF)	RCA A	RCA B	—
	GENERAL ELECTRIC A	GENERAL ELECTRIC B	—
MODE (MODE)	MAGNAVOX A	MAGNAVOX B	MAGNAVOX C

NOTES:
- The signals for the pressed buttons are emitted while setting the preset memory. To avoid accidental operation, cover the remote control unit's transmitting window while setting the preset memory.
- Some models and years of manufacture of components of the manufacturers listed on Table 7-2 cannot be used.

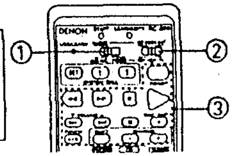
7-3 Operation after components are registered

1. Set the slide switch to "VIDEO".

AUDIO
AVR/AVC
VIDEO

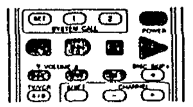
2. Set the slide switch to the component to be registered (VDP, VCR or TV).

CD DECK DAT
VDP VCR TV



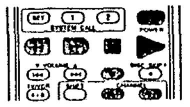
3. Use the buttons shown below to operate the video component. (Some models cannot be used.) For details, refer to the respective component's manual.

a. VDP



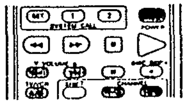
POWER : Power on/off
◀◀, ▶▶ : Manual search (reverse and forward)
■ : Stop
▶ : Play
I◀◀, ▶▶I : Auto search
II : Pause

b. VCR



POWER : Power on/off
◀◀, ▶▶ : Manual search (reverse and forward)
■ : Stop
▶ : Play
II : Pause
CHANNEL +, − : Channel selection

c. TV

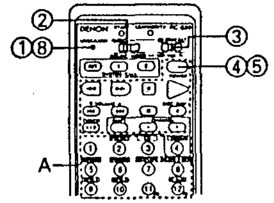


POWER : Power on/off
VOLUME ▲, ▼ : Volume up/down
TV/VCR : TV/video selection
CHANNEL +, − : Channel selection

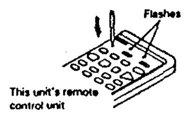
7-4 Remote control unit learning function

If your AV components are not DENON products or if operation is not possible with the preset memory settings, the components' remote control signals can be "learned" to enable remote control operation.

The buttons that can be "learned" are the CD, DAT and DECK system buttons (see page 15) and the VDP, VCR and TV system buttons (see page 17). (For the TV only, the A block buttons can also be "learned".)



1. Press the USE/LEARN selector button with the tip of a pen etc., to set the learn mode. Both the START and LEARNED/TX indicators flash.



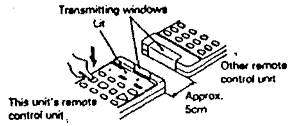
2. Set the program switch to the side to be "learned". Set to the AUDIO side for the CD, tape deck or DAT position, to the VIDEO side for the VDP, VCR or TV position.

AUDIO
AVR/AVC
VIDEO

3. Set the program switch to the position to be "learned".

CD DECK DAT
VDP VCR TV

4. Set the remote control units so they are facing each other, then press the button to be "learned" on this unit's remote control unit.

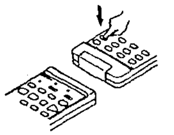


The indicator stops flashing and the START LED lights.
The learnable buttons are the buttons which can be operated with the DENON system codes for the CD player, DAT and tape deck, the buttons which can be operated with the preset memory for the VCR, VDP and TV. For the TV only, however, the buttons in the section indicated "A" on the diagram above can also be "learned". Use these to "learn" TV channels.

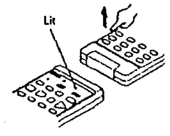
NOTE: Use button ⑪/0 as the 0 number button, button ⑫/E as the enter button.

Continued on page 18.

5. Check that the START LED is lit, then press the button to be "learned" on the other remote control unit.



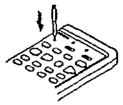
6. Once the START LED turns off and the LEARNED/TX LED lights, release the button on the other remote control unit.



The two LEDs start flashing again.

7. To "learn" other buttons, repeat steps 2 to 6.

8. Once the learning operation is completed, press the USE/LEARN selector button again.
The two LEDs stop flashing and the learning mode is cancelled.

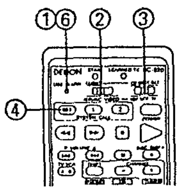


Check that the stored codes work properly.

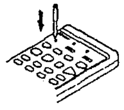
NOTES:

- Up to 26 codes can be "learned", but this number may be lower if the codes are long.
- If a non-learnable button is pressed or two or more buttons are pressed at once, the two LEDs will once again light when the button(s) is released.
- If the codes could not be stored, the LEARNED/TX LED does not light after the START LED turns off. For limited number of models, codes cannot be stored in RC-820.
- If the two LEDs start flashing rapidly after the START LED lights, this means that the memory is already full, and the code you have just attempted to store was not stored.
To "learn" that code, first perform the resetting operation.

7-5 Clearing "learned" remote control signals and the preset memory settings



1. Press the USE/LEARN selector button with the tip of a pen, etc., to set the learn mode.



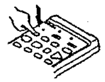
2. To clear "learned" remote control signals, set the slide switch to the position at which the signals were "learned". To clear the preset memory settings, set the slide switch to "VIDEO".

AUDIO
AVR/AVC
VIDEO

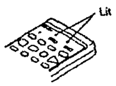
3. Set the slide switch to the position at which the signals were "learned" or at which the preset memory settings were set.

CD DECK DAT
VDP VCR TV

4. Press the SYSTEM CALL SET button, and hold it in for at least four seconds.



5. When both the START and LEARNED / TX LEDs light simultaneously, all the stored codes are cleared.

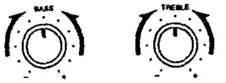


6. Press the USE/LEARN selector button.

8 OPERATIONS

8-1 Preparations for playback

1. Check that all connections are proper.
2. Set to the center position.

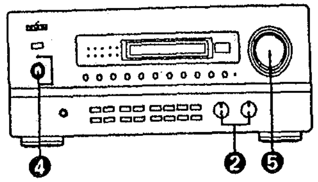


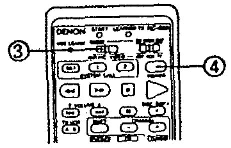
3. Set the remote control unit's slide switch to the AUDIO position. (only when operating with the remote control unit)

AUDIO
AVR/AVC VIDEO

4. Turn on the power.
Press the POWER switch (button).

POWER
POWER
ON/STANDBY
Lights





- ⊥ ON/STANDBY
The power turns on and "ON/STANDBY" indicator is lit.
Several seconds are required from the time the power switch is set to the "ON" position until sound is output. This is due to the built-in muting circuit that prevents noise when the power switch is turned on and off.
Set the POWER switch to this position to turn the power on and off from the included remote control unit (RC-820).

- ⊥ OFF
The power turns off and "ON/STANDBY" indicator is off.
In this position, the power cannot be turned on and off from the remote control unit.

8-2 Playing the analog program source

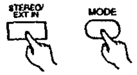
1. Press the button for the program source to be played.
EX: CD

2. Select the ANALOG input.

ANALOG/DIGITAL
ANALOG/DIGITAL
DIGITAL
Light off

Check that the "DIGITAL" indicator is off.
If it is lit, press the button to switch the mode.

3. Select the STEREO or EXT. IN mode.

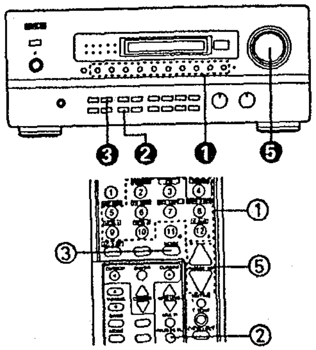


The play mode switches in the following order each time the STEREO/EXT.IN button on the main unit is pressed:

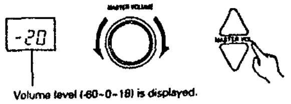
→ STEREO → EXT. IN

* EXT. IN mode
This mode is for playing the multi-channel audio signals of an MPEG multi-channel decoder, etc., connected to the main unit's EXT.IN jacks. (refer to page 6)

4. Start playback on the selected component.
For operating instructions, refer to the various components' manuals.



5. Adjust the MASTER VOLUME control.



Volume level (-60~0~18) is displayed.

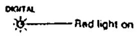
8-3 Playing the digital program source

1. Press the button for the program source to be played that is connected to the digital input jacks.
   EX: CD

2. Select the DIGITAL input.

ANALOG/DIGITAL

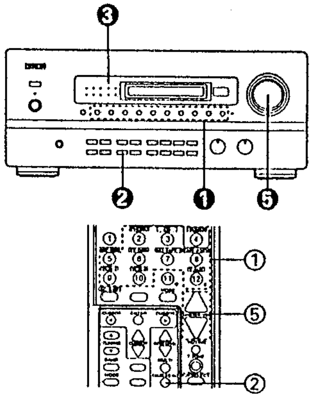
3. Check that the "DIGITAL" indicator is lit red.



When digital signals are input properly, the DIGITAL indicator switches from red to green.

* If the indicator is not lit green, check that the system setup's input setting (refer to page 12) and the connections are proper, that the component's power is turned on, etc.

4. Start playback on the selected component.
   For operating instructions, refer to the various components' manuals



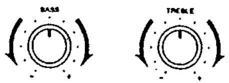
5. Adjust the MASTER VOLUME control.

MASTER VOLUME

NOTE: If a CD-ROM is played, the "DIGITAL" indicator is lit green but no sound is heard.

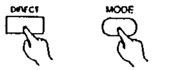
8-4 Adjusting the TONE control

1. Adjust the BASS and TREBLE.



Turn the control clockwise to increase the bass or treble, counterclockwise to decrease it.

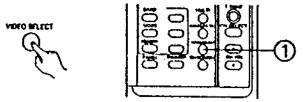
2. Select the DIRECT mode if there is no need to adjust the sound.



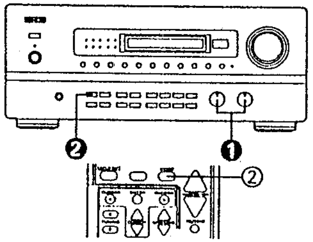
8-5 Simulcast playback

Use this switch to monitor a video source other than the audio source.

1. Press the VIDEO SELECT button repeatedly until the desired source appears on the display.



* Cancelling simulcast playback.
- Select "SOURCE" using the video select button.
- Switch the program source to the component connected to the video or AC-3RF input.

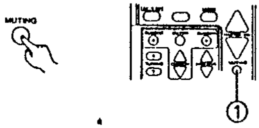


8-6 Using the muting function

Use this to turn off the audio output temporarily.

1. Press the MUTING button.

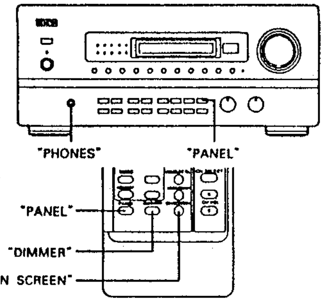
* Cancelling MUTING mode.
Press the MUTING button again.



8-7 Listen with headphones

Connect the headphones to the PHONES jack.
The pre-out output (including the speaker output) is automatically turned off when headphones are connected.

NOTE:
To prevent hearing loss, do not raise the volume level excessively when using headphones.



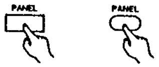
8-8 On screen display

Each time an operation is performed, a description of that operation appears on the display connected to the unit's VIDEO MONITOR OUT terminal. Also, the unit's operating status can be checked during playback by pressing the remote control unit's ON SCREEN button.

Such information as the position of the input selector and the surround parameter settings is output in sequence.

8-9 Front panel display

Descriptions of the unit's operations are also displayed on the front panel display. In addition, the display can be switched to check the unit's operating status while playing a source by pressing the PANEL button.



8-10 Using the dimmer function.

Use this to change the brightness of the display. The display brightness changes in four steps (bright, medium, dim and off) by pressing the remote control unit's DIMMER button repeatedly.

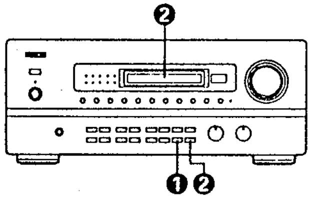
8-11 Multi-source REC OUT recording / playback

While listening to or watching the currently playing program source, you can record another program source (REC OUT mode), or by connecting the input jacks of an amplifier, etc., located away from the AVC-3800 (for example in another room) to the MULTI SOURCE output jacks, you can output the program source to the other location (room) (MULTI mode).

■ Recording a source other than the one currently playing (REC OUT mode)

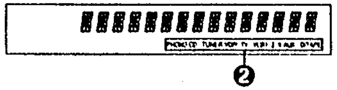
1. Press the REC/MULTI MODE button until "REC OUT SOURCE" appears on the display.

2. Select the source to be output to the recording output terminal.
   Press the REC/MULTI SOURCE button repeatedly until the desired source appears on the display



The indicator of the selected program source lights on the display at this time.

DISPLAY



3. Set to the audio or video recording mode.
   For operating instructions, refer to the manuals of the components to be used for audio or video recording.

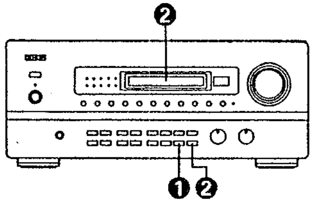
* REC OUT select is not possible for TAPE-2 monitor REC OUT.
* The signals of the source expect the digital input selected with the REC OUT mode are also output from the MULTI SOURCE AUDIO/VIDEO OUT terminals.
* Digital input signals cannot be recorded. To record, connect to the analog input terminals.
* To cancel the REC OUT mode.
Press the REC/MULTI MODE button or the REC/MULTI SOURCE button repeatedly until "SOURCE" appears on the display

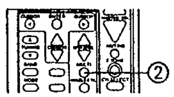
■ Playing a source other than the one currently playing in a different room (MULTI mode)

1. Press the REC/MULTI MODE button repeatedly until "M-SOURCE SOURCE" appears on the display.

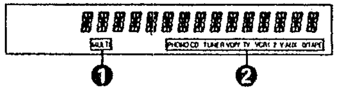
2. Select the source to be output to the MULTI SOURCE output terminal. Press the REC/MULTI SOURCE button repeatedly until the desired source appears open the display.
   The indicator of the selected program source lights on the display at this time.
   The "MULTI" indicator lights on the display at this time.

SOURCE
MULTI





DISPLAY



- * When the MULTI button on the remote control unit is pressed, the source to be output from the MULTI SOURCE terminals can be selected.
  (This cannot be selected when the main unit is in the REC OUT mode.)
- * The digital signals are not output from the MULTI SOURCE AUDIO/VIDEO OUT terminals.
- * To cancel the MULTI mode
  Press the REC/MULTI MODE button or the MULTI button on the remote control unit repeatedly until "SOURCE" appears on the display.

NOTE:
The signals of the source selected in the MULTI mode are also output from the DAT/TAPE-1 and VCR recording output terminals.

Multi-source and multi-zone playback

By connecting another pre-main amplifier, etc., to the MULTI SOURCE OUT jacks, you can listen to a source other than the one in the main room in other room. To connect the video signal, use a 75 Ω/ohms cable designed specifically for video signals. Using an improper cable can result in a drop in sound quality.

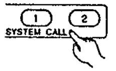
8-12 System call (remote control unit)

This function allows you to preset frequently used operation patterns in the remote control unit then automatically send a series of up to ten remote control codes with a single button.

Presetting

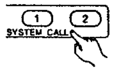
1. Press the SET button.

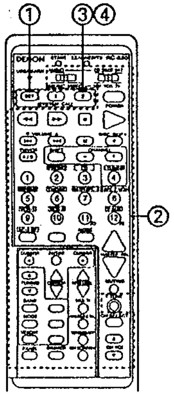
2. Press the buttons for the codes to be sent, changing the position of the slide switch as necessary. (Up to ten buttons can be set.)
   Buttons which have been "learned" and buttons which have been preset can also be selected.
3. Press the SYSTEM CALL button ("1" or "2") at which you want to store the codes.
   The setting is now stored.



Recalling

4. Press the SYSTEM CALL button ("1" or "2") at which the desired codes have been stored.
   The series of codes is now sent.





9 USING THE SURROUND FUNCTION

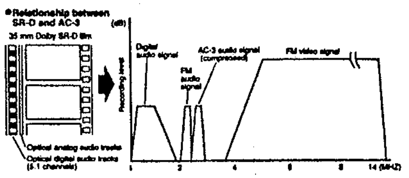
9-1 Dolby Surround

This unit is equipped with digital signal processing sections for decoding and reproducing movie soundtracks the same way as in movie theaters

1. **DOLBY SURROUND PRO LOGIC**
   When using conventional video tapes, laser discs, TV programs or CDs with the mark, Dolby Pro Logic provides extremely natural sound movement and positioning, immersing you in the on screen action. Pro Logic uses a directional emphasis circuit to decode four output channels (front left and right, center and surround) from the two audio channels provided on the software.

2. **DOLBY DIGITAL AC-3**
   When you connect an LD player with an AC-3 RF output and play laser discs with the mark, you can experience improved sound spatiality, positioning, and impact compared with Pro Logic. This is because Dolby Digital AC-3 delivers up to 5 totally discrete, full frequency audio channels (front left and right, center, and surround left and right), plus a bass-only effects channel. Since the signal is digital from the input of the program source until to the output of this unit, a higher quality and clarity of surround sound results.
   Dolby Digital AC-3 (Auto Coding 3) is a system developed by Dolby Laboratories that transmits 5.1 channels of digital signals. The surround system developed for movie theaters using this system is called "Dolby SR-D (Surround Digital)". Whereas the conventional Dolby Pro Logic Surround is an analog matrix system, Dolby SR-D is a digital discrete system in which the different channels are completely independent. This makes it possible to achieve a realistic sound field with a "three-dimensional" feel, giving the sound a sense of distance, movement and relative position, and creating a surprisingly real and powerful sense of presence when playing movie software in AV rooms.
   There are "5.1 ch" playback channels: three front channels (front left, center and front right), two surround channels (surround left and surround right), plus "0.1 channel" called LFE (Low Frequency Effect) for low bass effect sounds of 120 Hz or less. The signals are recorded on the software in fully discrete fashion, eliminating crosstalk between channels and making it possible to control the sound field in the listening/viewing space with greater precision.
   In addition, the frequency range of the five channels extends up to 20 kHz, (the same as CDs,) resulting in clear sound with greater richness of expression. Also, Dolby Digital AC-3 will be used on DVDs, the next generation AV medium.

●Relationship between SR-D and AC-3



● Dolby Digital AC-3 and Pro Logic

Home surround methods	Dolby Digital AC-3	Dolby Pro Logic
No. recording channels (material)	5.1 ch	2 ch
No. playback channels	5.1 ch	4 ch
Playback channels	L, R, C, SL, SR and SW	L, R, C, S (SW recommended)
Audio processing	Digital discrete processing, AC-3 encoding/decoding	Analog matrix processing, Dolby Surround
Upper reproduction limit of surround channel	20 kHz	7 kHz

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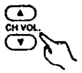
"Dolby," "AC-3", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Copyright 1992 Dolby Laboratories, Inc. All rights reserved.

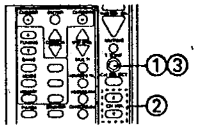
9-2 Before playing with the surround function

Before playing with the surround function, be sure to use the test tones to adjust the playback level from the different speakers. This adjustment can be performed with the system setup (see page 11, 12) or from the remote control unit, as described below.
Adjusting with the remote control unit using the test tones is only possible in the "Auto" mode and only effective in the Dolby Surround mode. The adjusted levels are automatically stored in the memory.

1. Press the T.TONE button.

2. Test tones are output from the different speakers. Use the channel volume adjust buttons to adjust so that the volume of the test tones is the same for all the speakers.

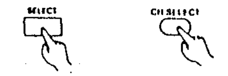




3. After completing the adjustment, press the T.TONE button again.

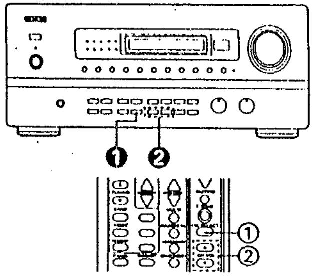
After adjusting using the test tones, adjust the channel levels either according to the playback sources or to suit your tastes, as described below.

1. Press the channel select button to select the speaker to be adjusted


SELECT
CH SELECT

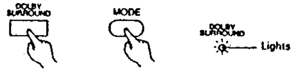
2. Adjust the level of the selected speaker.

DOWN
UP
CH VOL.



9-3 Using the Dolby Surround Pro Logic mode

1. Set the DOLBY SURROUND mode.

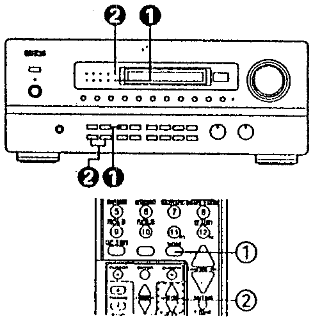

DOLBY SURROUND
MODE
DOLBY SURROUND
Lights

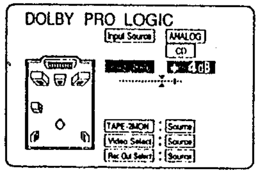
* Conventional program sources will automatically be decoded with Dolby Pro Logic, while Dolby Digital AC-3 program sources will be decoded with Dolby Digital AC-3.

2. If necessary, adjust the input level when analog sources are used to obtain maximum dynamic range without overload.

DOWN
UP
LEVEL
INPUT LEVEL
OVER LOAD
Lights

Set so that the "OVER LOAD" indicator does not light at places where the volume is high.




DOLBY PRO LOGIC
Input Source
ANALOG
CD
-4dB
TAPE-2MON
Source
Video Select
Source
Rec Out Select
Source

(screen 18)

* For digital input sources, there is no need to adjust the input level. (These buttons will not operate and the indicator will not light.)

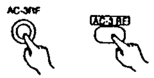
* The current input source, input level, etc., can be checked on the on screen display. (screen 18)

3. Play a program source with the DOLBY SURROUND or DOLBY SURROUND AC-3 DIGITAL mark. For operating instructions, refer to the various components' manuals.

9-4 Using the Dolby Digital AC-3 mode

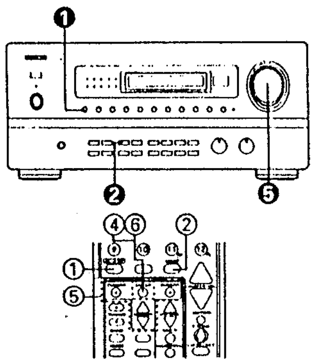
1. Switch the audio input to AC-3RF input (a) or digital input (b). The VDP picture is linked to the AC-3RF signals.

   a. AC-3RF (VDP AUTO or VDP AC-3RF) Input
   Select the AC-3 RF input.


AC-3RF
AC-3RF

When the button is pressed, the video input automatically switches to VDP/DVD. The input mode switches as follows each time the button is pressed:

$$\rightarrow \text{VDP AUTO} \longrightarrow \text{VDP AC-3RF} \rightarrow$$



This input mode makes it possible to play the Dolby Digital AC-3 audio, digital audio or analog audio signals recorded on the source by switching between the priority and fixed modes for the AC-3RF, digital (optical/coaxial) or analog input jacks with the VDP/DVD function.

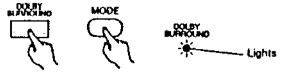
■ VDP AUTO	When AC-3RFsignals and digital and analog signals are input from the LD, the signals are automatically selected with the following priority: AC-3RF → digital or analog.
■ VDP AC-3 RF	AC-3RF fixed input

NOTES:

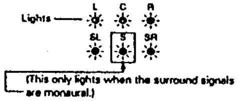
- In the "VDP AUTO" mode, when an LD with the Dolby Digital AC-3 audio is detected, the decoder switches automatically and the Dolby Digital AC-3 audio is played. Also, in any mode other than normal LD player playback, no Dolby Digital AC-3 signals are detected, so the mode automatically switches to PCM or analog audio.
- In the "VDP AUTO" mode, when the mode changes from pause, chapter search, etc., to playback during playback of the Dolby Digital AC-3 audio on an LD, the PCM or analog sound may be output momentarily before the mode is switched to the Dolby Digital AC-3 audio mode.
  If this happens, the sound will not be interrupted if you switch to the "VDP AC-3RF" (AC-3RF fixed input) mode.
- The AC-3RF input mode setting is reset to "VDP AUTO" when the power is turned off using the power switch on the remote control unit or on the main unit.

   b. Digital Input
   Select the digital input. Refer to page 20, 8-3, 1, 2 and 3.

2. Set the DOLBY SURROUND mode.

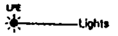

DOLBY SURROUND
MODE
DOLBY SURROUND
Lights

3. Play a program source with the DOLBY SURROUND AC-3 DIGITAL mark or a program source with Dolby Digital AC-3 formats.
The indicators below showing the signals included in the software light. (The number of channels differs according to the software.)


Lights
L
C
R
SL
S
SR
(This only lights when the surround signals are monaural.)

L:	Front Left ch	SL:	Surround Left ch
C:	Center ch	S:	Mono Surround ch
R:	Front Right ch	SR:	Surround Right ch

Also, the following indicator lights if the software contains Low Frequency Effect sounds:



4-1. Adjust the sound for the program source using the on screen display.

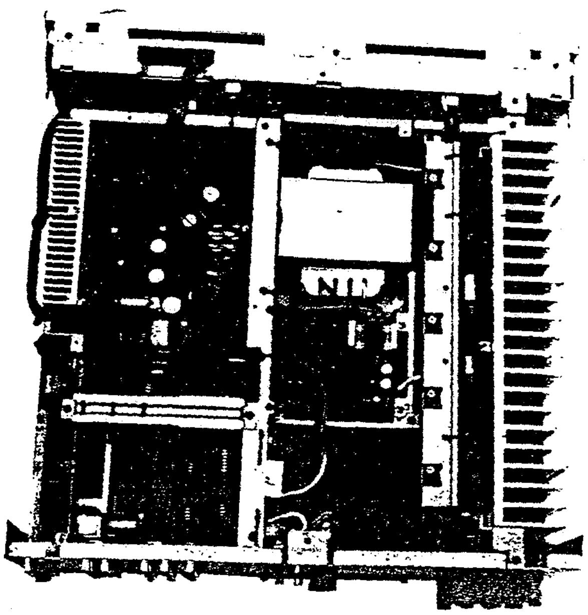
SPECIFICATIONS

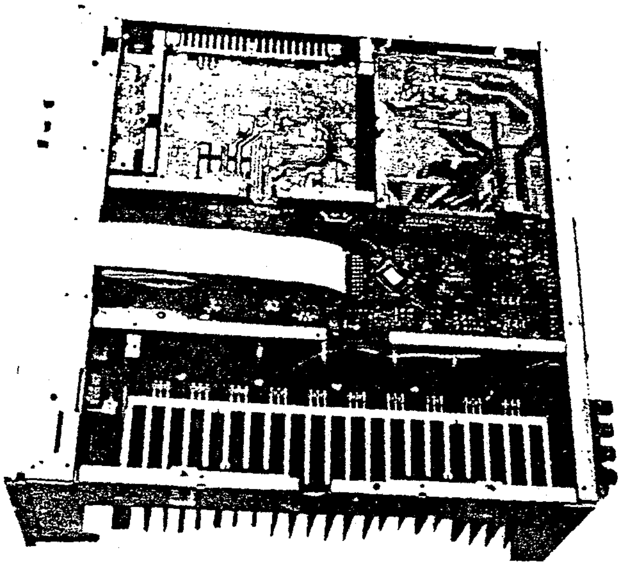
- **Audio section**	
(Power amplifier)	
Rated output: (All properties shown are only for the power amplifier stage.)	Stereo (2ch driven) 110 W × 2 ch (8 Ω / ohms, 20 Hz ~ 20 kHz with 0.05% T.H.D.) 150 W × 2 ch (8 Ω / ohms, EIAJ) Surround 105 W × 5 ch (8 Ω / ohms, EIAJ)
Dynamic power:	140 W × 2 ch (8 Ω / ohms) 235 W × 2 ch (4 Ω / ohms) 280 W × 2 ch (2 Ω / ohms)
Output terminals:	Front / Center: A or B or Bi-wiring 8 to 16 Ω / ohms A + B 16 Ω / ohms Surround: 8 to 16 Ω / ohms
(Analog)	
Input sensitivity / input impedance:	200 mV/47 kΩ / kohms
Frequency response:	10 Hz – 100 kHz: +0, –3 dB (DIRECT mode)
S / N:	105 dB (DIRECT mode)
Distortion:	0.005% (20 Hz ~ 20 kHz) (DIRECT mode)
Rated output / maximum output:	1.2 V/8 V
Maximum headphones output:	284 mW (8 Ω/ohms)
Phono equalizer (PHONO input — REC OUT)	
Input Sensitivity:	2.5 mV
RIAA deviation:	±1 dB (20 Hz to 20 kHz)
Signal-to-noise ratio:	74 dB (A weighting, with 5 mV input)
Rated output / Maximum output:	150 mV / 8 V
Distortion factor:	0.03% (1 kHz, 3 V)
(Digital)	
D / A output:	Rated output: 2 V (at 0 dB playback) Total harmonic distortion – 0.005% (1 kHz, at 0 dB) S/N ratio: 102 dB Dynamic range: 96 dB
Digital input:	Format – Digital audio interface
- Video section	
(Standard video jacks)	
Input / output level and impedance:	1 Vp-p, 75 Ω / ohms
Frequency response:	5 Hz ~ 10 MHz +0, –3 dB
(S-video jacks)	
Input / output level and impedance:	Y (brightness) signal: 1 Vp-p, 75 Ω/ohms C (color) signal: 0.286 Vp-p, 75 Ω/ohms
Frequency response:	5 Hz ~ 10 MHz +0, –3 dB
- General	
Power supply:	AC 230 V, 50 Hz (for Asia model) AC 120 V, 60 Hz (for Taiwan R.O.C. model)
Power consumption:	450 W (for Asia model) 390 W (for Taiwan R.O.C. model)
Maximum external dimensions:	434 (W) × 181 (H) × 486 (D) mm (17-3/32" × 7-1/8" × 19-1/8")
Weight:	21.5 kg (47 lbs 6 oz)
- **Remote control unit (RC-820)**	
Batteries:	R6P/AA Type (two batteries)
External dimensions:	70 (W) × 215 (H) × 19 (D) mm (2-3/4" × 8-15/32" × 3/4")
Weight:	180 g (Approx. 6 oz) (including batteries)

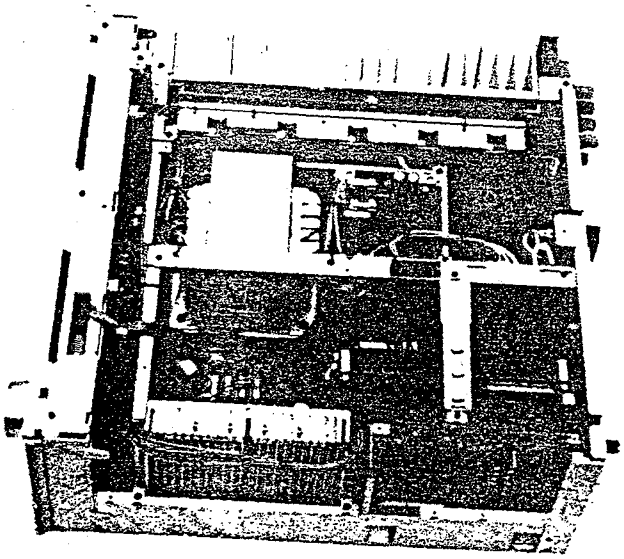
* For purposes of improvement, specifications and design are subject to change without notice.

WIRE ARRANGEMENT

In case of wires require unclasping or loosening to move the location to perform adjustment or part replacement, be sure to rearrange them neatly to restore properly in the same location as they were originally placed, or causing to produce a noise may occasionally occur.





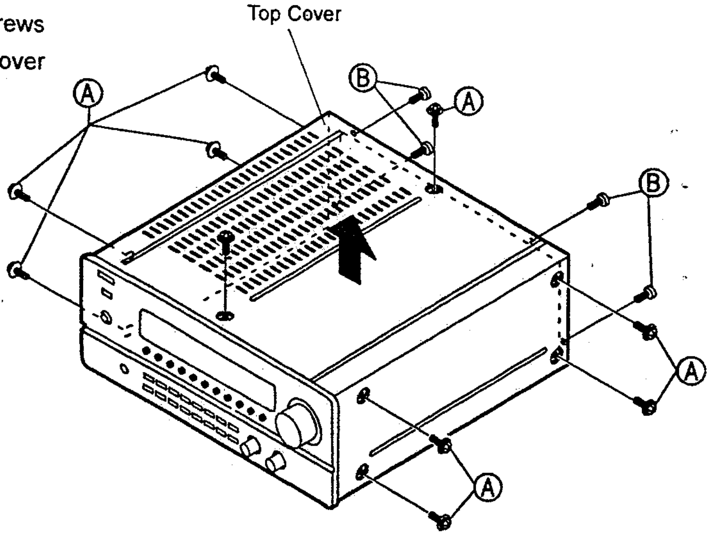


DISASSEMBLY

(To reassemble reverse disassembly)
Note: When detached the Bottom Cover, do not remove the Back Panel except the unit is in the normal putting state.

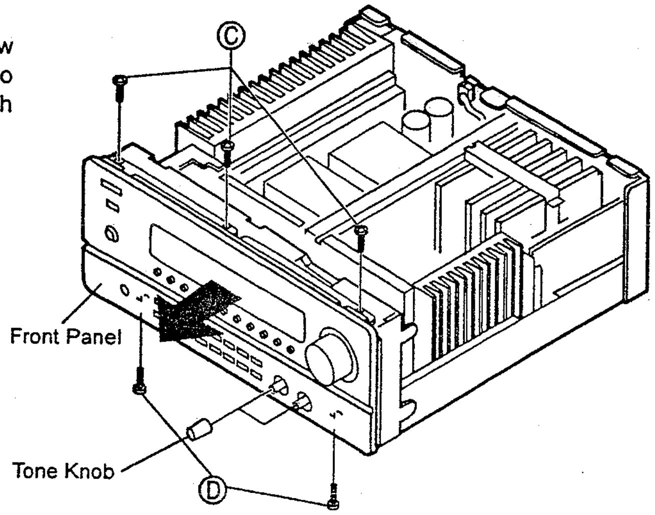
1. Top Cover

Remove 10 screws Ⓐ fixing the Top Cover and 4 screws Ⓑ mounting the Rear Panel, then detach the Top Cover as shown in the arrow direction.



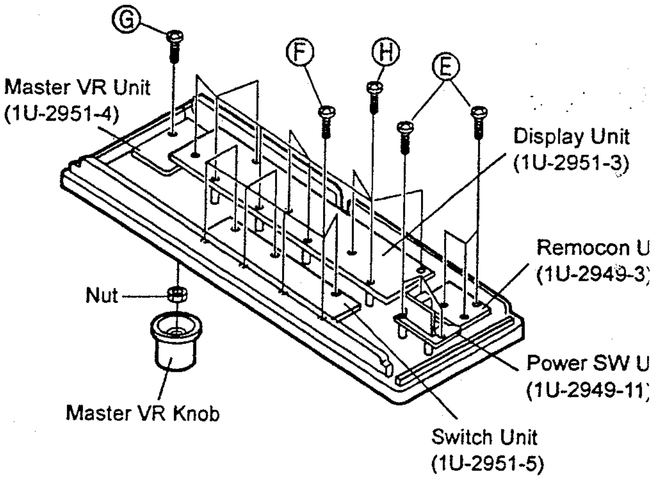
2. Front Panel

Remove 3 upper screws Ⓒ and 2 below screws Ⓓ, pull out 2 Tone Knobs.
After removing the Front Panel as shown in the arrow direction, and disconnect FFC cable which connected to the FLD P.W.Board, 5P connector and power switch connector, then detach the Front panel.


Ⓒ
Front Panel
Tone Knob
Ⓓ

3. Each Front Panel P.W.Board

Pull out the Master VR Knob and remove the Nut.
Remove 6 screws Ⓔ mounting the Front Panel and detach the Remocon Unit (1U-2949-3) and the Power SW Unit (1U-2949-11).
Remove 7 screws Ⓕ mounting the Front Panel and detach the switch Unit (1U-2951-5).
Remove a screw Ⓖ and 9 screw Ⓗ mounting the Front Panel, and detach the Master VR Unit (1U-2951-4) and the Display Unit (1U-1951-3) together.

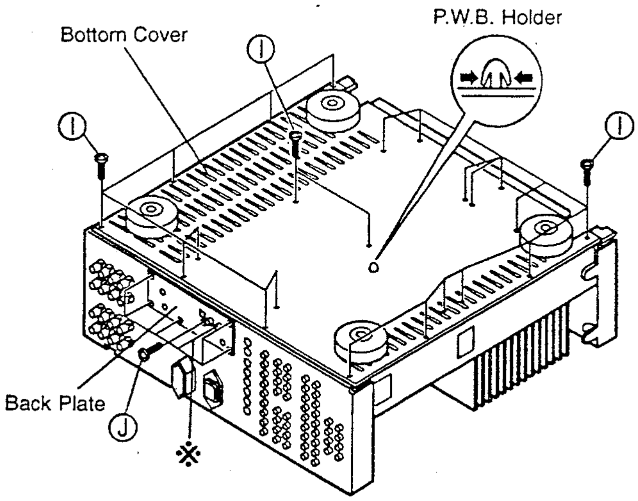

Ⓖ
Ⓕ
Ⓗ
Ⓔ
Master VR Unit
(1U-2951-4)
Display Unit
(1U-2951-3)
Remocon U
(1U-2949-3)
Nut
Power SW U
(1U-2949-11)
Master VR Knob
Switch Unit
(1U-2951-5)

4. MCON Unit (1U-2959-2)

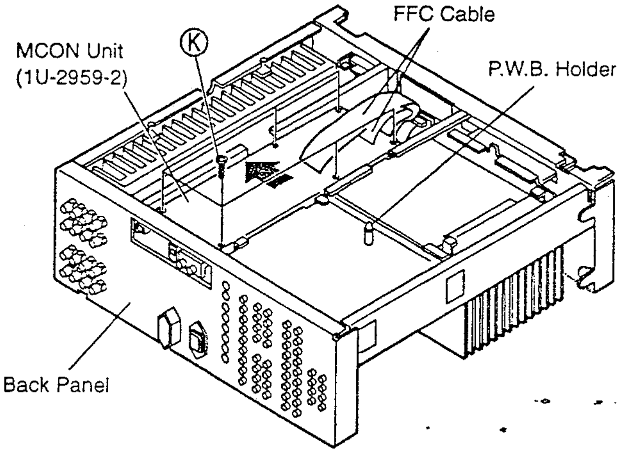
Remove 22 screws Ⓘ fixing the Bottom Cover, and detach the Bottom Cover.
Remove 7 screws Ⓙ mounting the Back Panel, and detach the Back Plate.

Notes:

- When servicing the unit, do not detach the Back Panel except the unit is in the normal putting state.
- Be careful that when removing 7 screws Ⓙ mounting the Back plate and digital input (Coaxial & AC3-RF), the digital coaxial & AC3-RF will not actuate normally.
- When the unit is putted horizontally in the detached bottom cover state, be sure to do not bring pressure forcefully to the P.W.B. Holder of the wiring Unit (1U-2958-2) P.W.B..


Bottom Cover
Ⓘ
P.W.B. Holder
Ⓘ
Ⓘ
Back Plate
Ⓙ
※

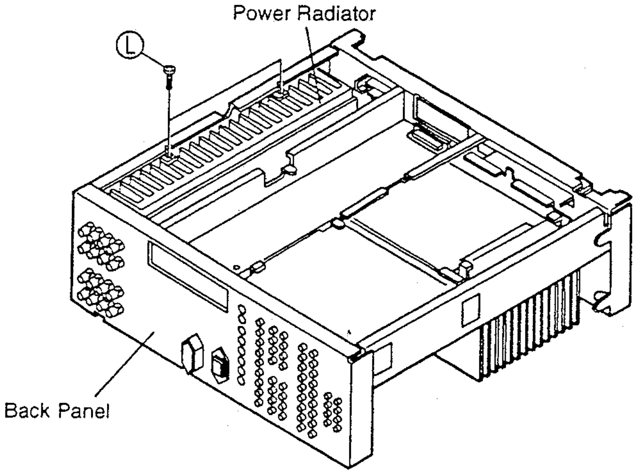
Remove 6 screws Ⓚ fixing the MCON Unit, detech the MCON Unit (1U-2959-2) as shown in the arrow direction, then disconnect a connector and 2 FFC cables.


MCON Unit
(1U-2959-2)
Ⓚ
FFC Cable
P.W.B. Holder
Back Panel

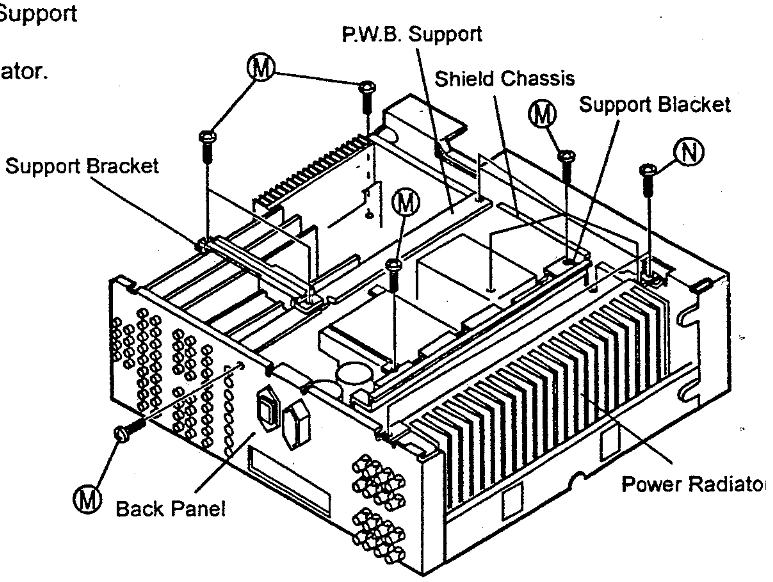
5. Each P.W.Board

5-1 Power Radiator

Remove 2 screws Ⓛ fixing the Power Radiator.

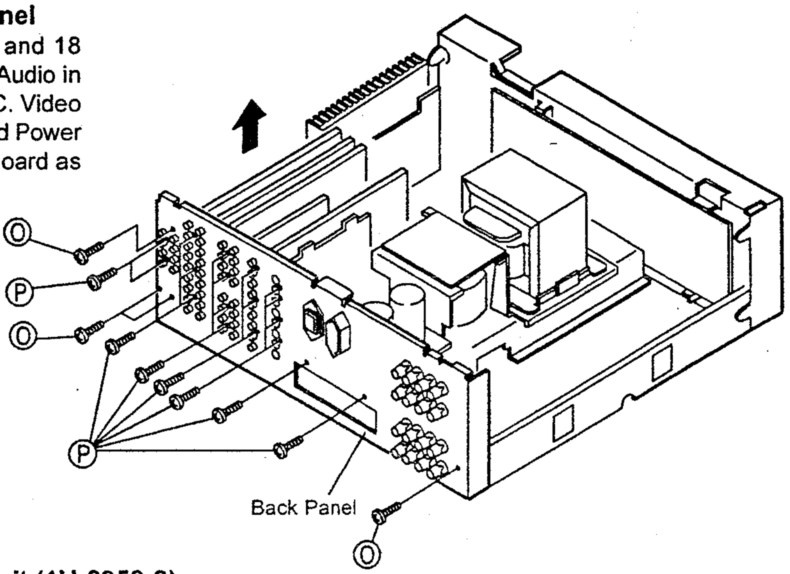

Ⓛ
Power Radiator
Back Panel

Remove 9 screws Ⓜ fixing the Support Bracket, Support Bracket and shield chassis, and detach them.
Remove 2 screws Ⓝ, then detach the Power Radiator.


P.W.B. Support
Ⓜ
Shield Chassis
Ⓜ
Support Blacket
Ⓝ
Support Bracket
Ⓜ
Ⓜ
Back Panel
Power Radiato

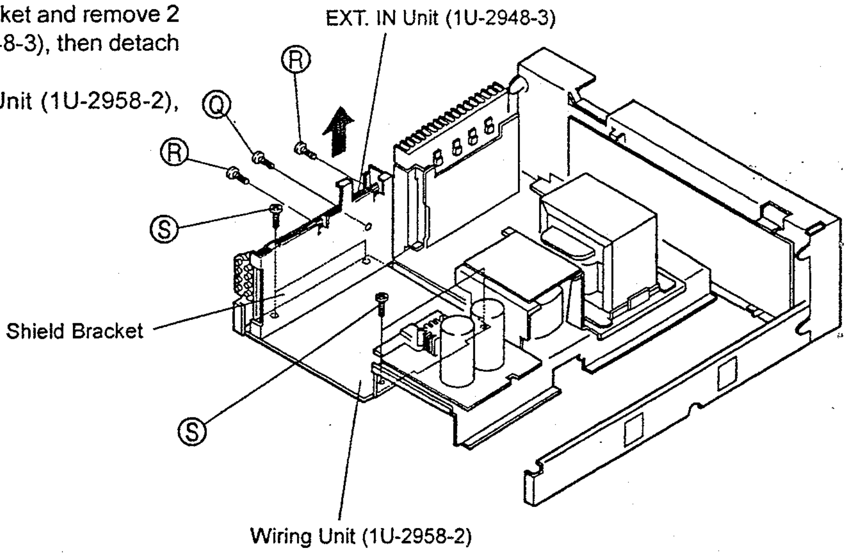
5-2 Each P.W.Board mounting the Back Panel

Remove 4 screws Ⓞ fixing the Back Panel and 18 Screws Ⓟ Fixing the Tuner Unit (1U-2948-2), Audio in Unit (1U-2948-1), Pre Amp Unit (1U-2949-1), C. Video Unit (1U-1951-2), S. Video Unit (1U-2951-1) and Power Unit (1U-2952-4), then detach the each P.W.Board as shown in the arrow direction.



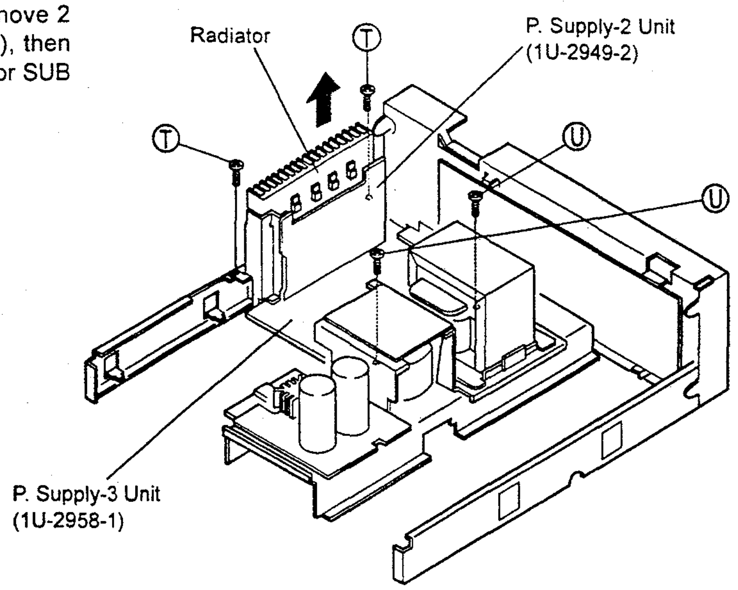
5-3 EXT. IN Unit (1U-2948-3) and Wiring Unit (1U-2958-2)

Remove a screw Ⓠ fixing the shield Bracket and remove 2 screws Ⓡ fixing the EXT. IN Unit (1U-2948-3), then detach the EXT. IN Unit.
Remove 4 screws Ⓢ fixing the wiring Unit (1U-2958-2), then detach the Wiring Unit.


EXT. IN Unit (1U-2948-3)
Ⓡ
Ⓠ
Ⓡ
Ⓢ
Shield Bracket
Ⓢ
Wiring Unit (1U-2958-2)

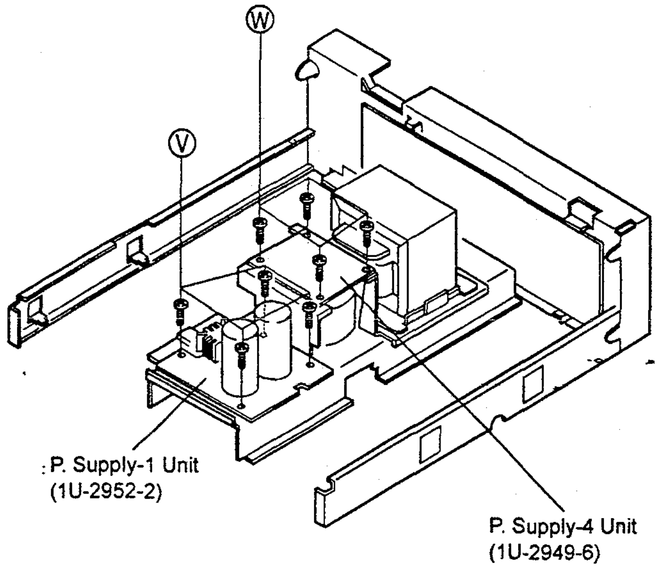
5-4 Radiator SUB Ass'y (P. Supply-2 Unit 1U-2949-2, P. Supply-3 Unit 1U-2958-1)

Remove 2 screws Ⓣ fixing the Radiator and remove 2 screws Ⓤ fixing the P. Supply-3 Unit (1U-2958-1), then disconnect each connector and detach the Radiator SUB Ass'y as shown in the arrow direction.


Radiator
Ⓣ
P. Supply-2 Unit (1U-2949-2)
Ⓣ
Ⓤ
Ⓤ
P. Supply-3 Unit (1U-2958-1)

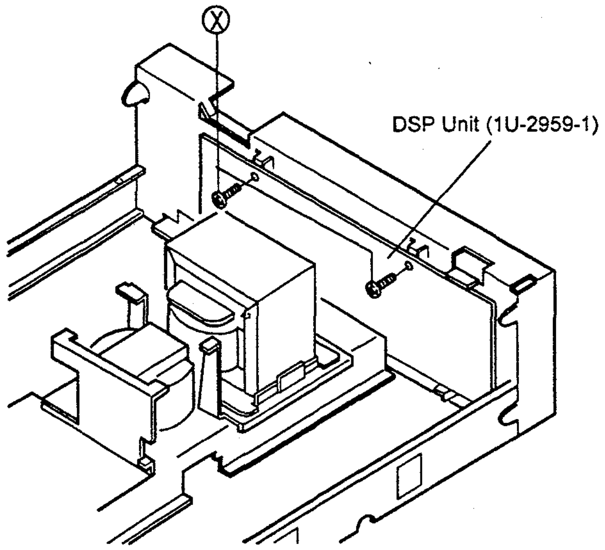
5-5 P.Supply-4 Unit (1U-2949-6) and P.Supply-1 Unit (1U-2952-2)

Remove 4 screws Ⓥ and detach the P. Supply-1 Unit (1U-2952-2).
Remove 4 screws Ⓦ, then detach the P. Supply-4 Unit (1U-2949-6)

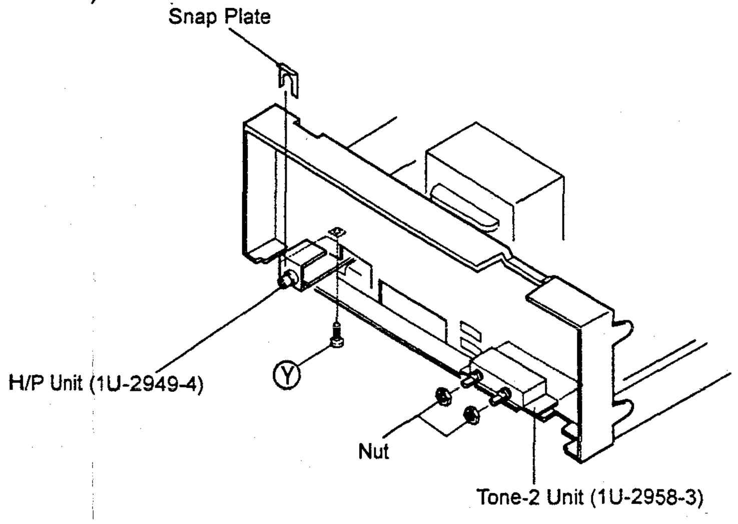

Ⓦ
Ⓥ
P. Supply-1 Unit (1U-2952-2)
P. Supply-4 Unit (1U-2949-6)

5-6 H/P Unit (1U-2949-4), Tone-2 Unit (1U-2958-3) and DSP Unit (1U-2959-1)

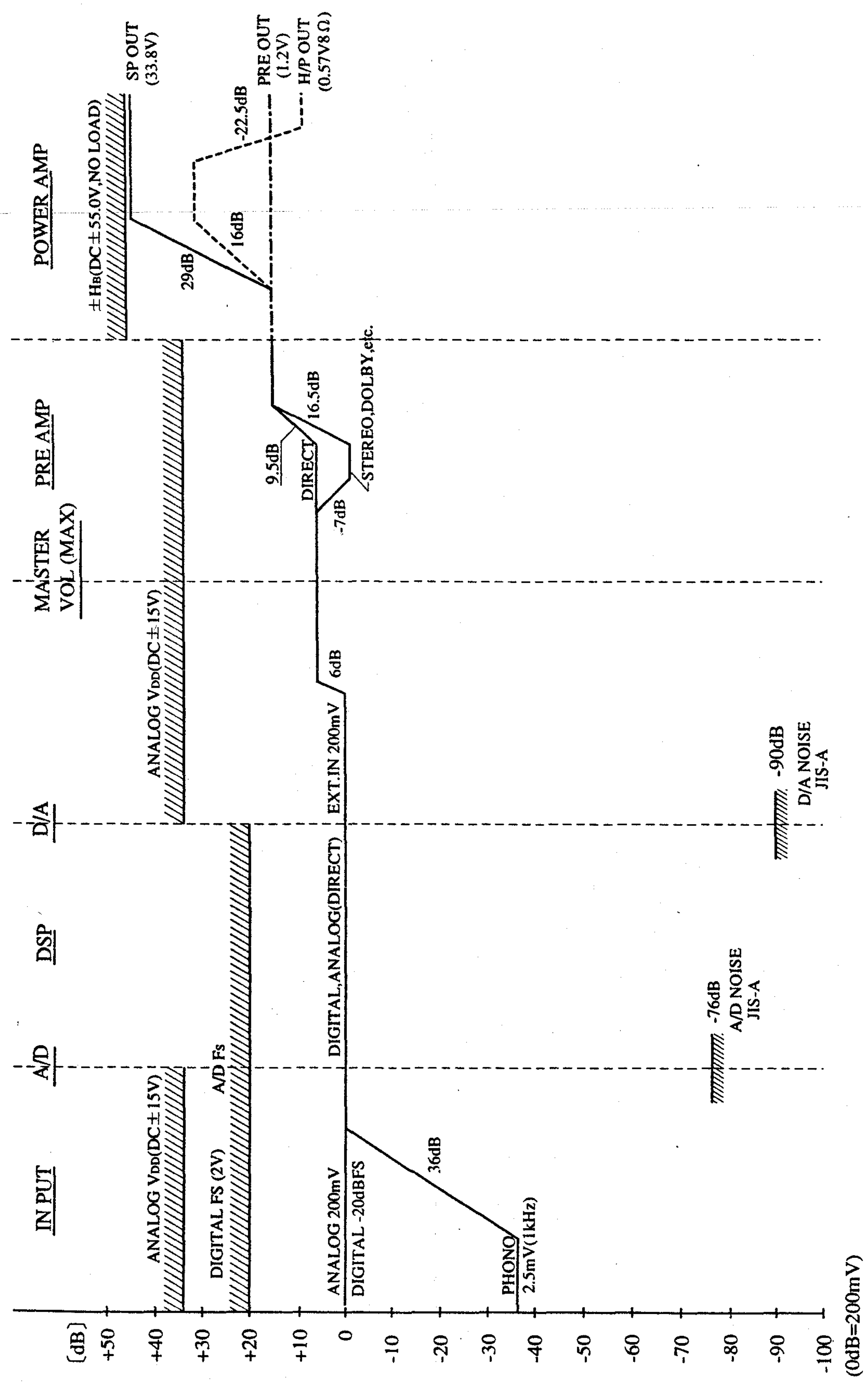
Remove 2 screws Ⓧ, then detach the DSP Unit (1U-2959-1).


Ⓧ
DSP Unit (1U-2959-1)

Remove a screw Ⓨ and undo a Snap Plate as shown in figure, then detach the H/P Unit (1U-2949-4).
Remove 2 Nuts and detach the Tone-2 Unit (1U-2958-3).


Snap Plate
H/P Unit (1U-2949-4)
Ⓨ
Nut
Tone-2 Unit (1U-2958-3)

LEVEL DIAGRAM


IN PUT
A/D
DSP
D/A
MASTER VOL (MAX)
PRE AMP
POWER AMP
ANALOG VDD(DC±15V)
DIGITAL FS (2V)
A/D Fs
ANALOG 200mV
DIGITAL -20dBFS
36dB
PHONO
2.5mV(1kHz)
-76dB
A/D NOISE
JIS-A
DIGITAL,ANALOG(DIRECT)
EXT.IN 200mV
6dB
ANALOG VDD(DC±15V)
-90dB
D/A NOISE
JIS-A
9.5dB
DIRECT
-7dB
16.5dB
STEREO,DOLBY,etc.
±HB(DC±55.0V,NO LOAD)
29dB
16dB
-22.5dB
SP OUT
(33.8V)
PRE OUT
(1.2V)
H/P OUT
(0.57V8Ω)
(dB)
+50
+40
+30
+20
+10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
(0dB=200mV)

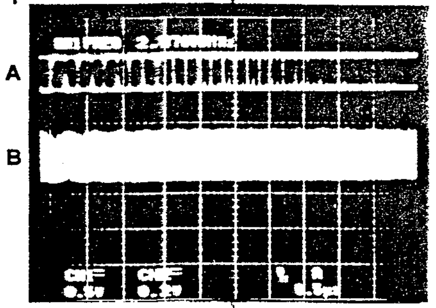
ADJUSTMENT

Confirming for Digital Block (1U-2959-1, 2)

When the unit is in normal operation, the digital signals provide as shown in figure and confirm the test points with corresponding wareforms.

When the RF signal is fed.

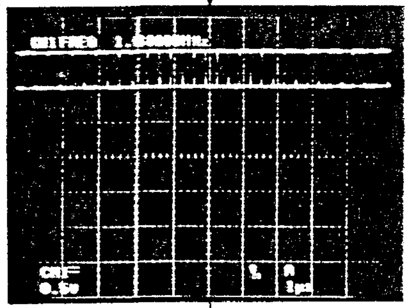
fig-1



A: IC306 82 pin
B: IC301 1 pin

Vertical: IC306 82 pin 5V/div
IC301 1 pin 2V/div
Horizontal: 0.5 µS/div

fig-2

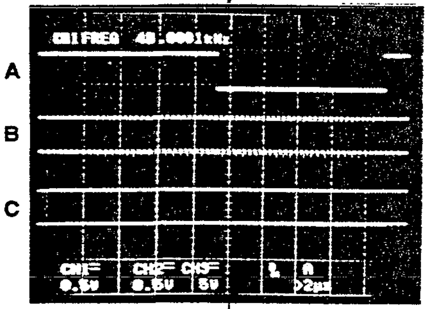


IC304 8 pin
IC18 10 pin

DIG-DATA (Bi-Phase DATA)

Vertical: 5V/div
Horizontal: 1.0 µS/div

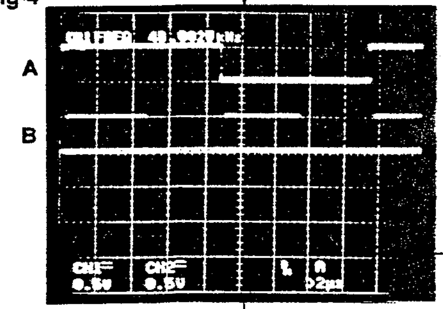
fig-3



A: IC18 11 pin
B: IC18 12 pin
C: IC18 19 pin

Vertical: 5V/div
Horizontal: 2 µS/div

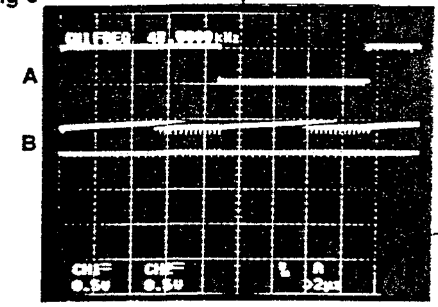
fig-4



A: IC1 95 pin
B: IC1 101 pin

Vertical: 5V/div
Horizontal: 2 µS/div

fig-5



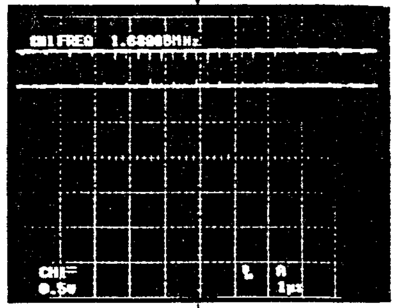
A: IC501 ~ 503 20 pin
B: IC501 ~ 503 22 pin

Vertical: 5V/div
Horizontal: 2 µS/div

When the digital signal is fed.

(EX. fs = 48 KHz)

fig-2

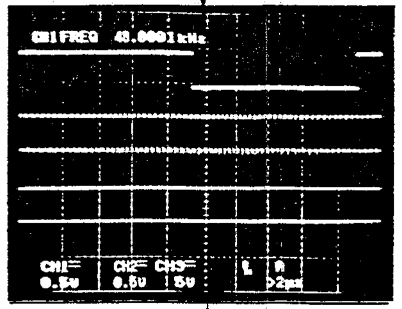


IC316 14 pin (OPT)
IC316 3 pin (COAX)
IC18 10 pin

Vertical: 5V/div
Horizontal: 1.0 µS/div

When the analog signal is fed.

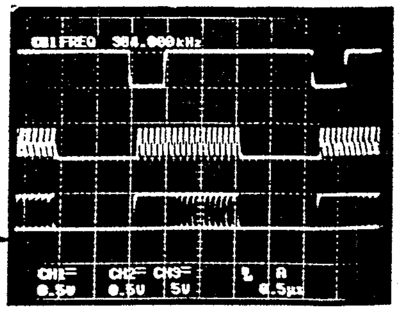
fig-3



A: IC101 14 pin
B: IC101 15 pin
C: IC101 20 pin

Vertical: 5V/div
Horizontal: 0.5 µS/div

fig-6



A: IC504 ~ 506 13 pin
B: IC504 ~ 506 11 pin
C: IC504 ~ 506 14 pin
Vertical: 5V/div
Horizontal: 0.5 µS/div

Confirm the normal communication waveforms (Fig7) at P112Pin, 49Pin and 115Pin of IC1 which is fed from the microcomputer with serial data communication control.

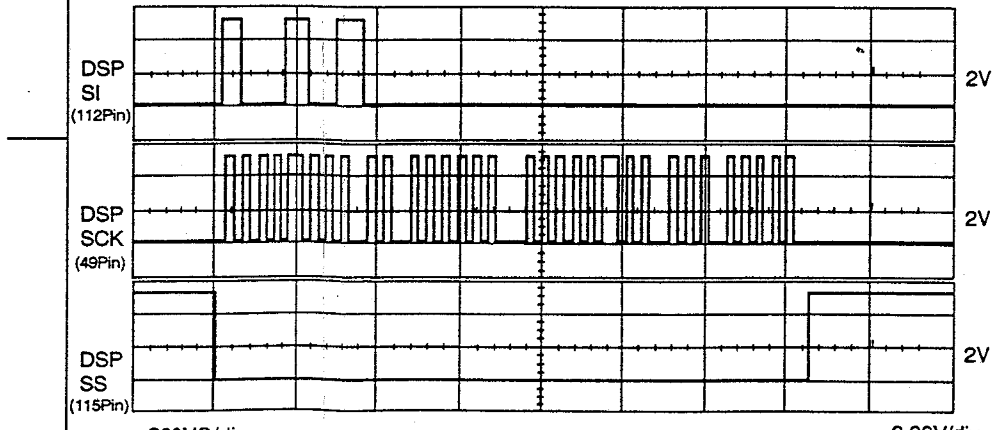


fig-7 (The DSPSI signal is a reference data)

FUNCTION OF NEW CIRCUIT

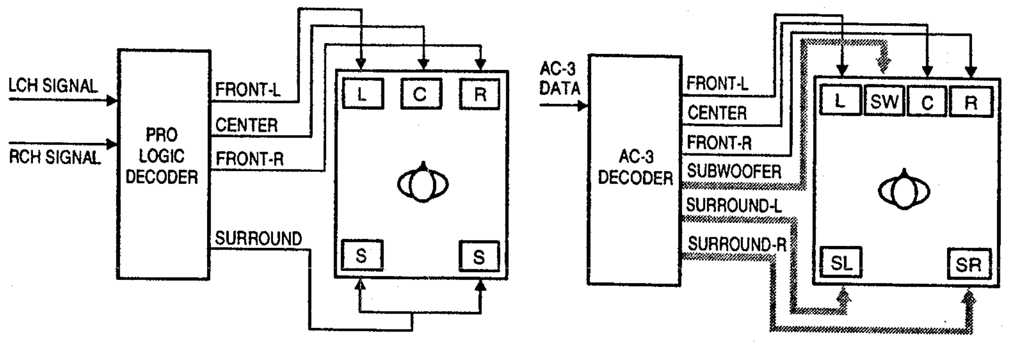
Circuit Description

DOLBY AC-3

DOLBY AC-3 is a format of new surround signal reproduces maximum 5 channels, i. e. FRONT-LEFT, -RIGHT, CENTER and SURROUND-LEFT, -RIGHT ;plus exclusive subwoofer signal (0.1 ch), totally 5.1 channels from the exclusive digital signal. Following is the featuring points of AC-3.

(1) Makes surround channel into stereo.
(2) Provides optimum separation due to independent processing of each channel signal.
(AC-3: More than 80 dB, PRO LOGIC: Approx. 25~40 dB)
(3) Resultant surpassed orientation feeling and movement feeling obtained from. uniform frequency characteristic.
(AC-3: 20Hz~20kHz all channels, PRO LOGIC: 20 Hz~20 kHz FRONT, CENTER channels 20 Hz~7 kHz SURROUND channels)
(4) With the high-efficient signal coding technique, one digital cable permits transmission maintaining the above features.

Comparative Diagram of PRO LOGIC and AC-3

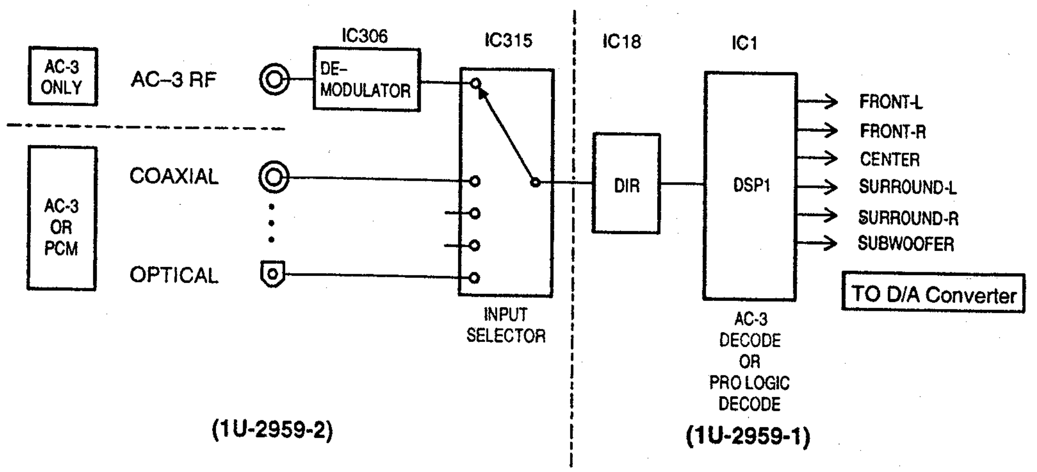

LCH SIGNAL
RCH SIGNAL
PRO LOGIC DECODER
FRONT-L
CENTER
FRONT-R
SURROUND
L
C
R
S
S
AC-3 DATA
AC-3 DECODER
FRONT-L
CENTER
FRONT-R
SUBWOOFER
SURROUND-L
SURROUND-R
L
SW
C
R
SL
SR

DOLBY PRO LOGIC AC-3

Two kinds of input signals: one corresponds "AC-3RF" signal emitting from LD player; the other is universal optical or coaxial digital format "IEC958" over lapped with "AC-3 exclusive" digital signal. AC-3RF signal is connected via the terminals "AC-3RF OUT" equipped with AC-3 corresponding LD player and "AC-3RF" input of AVC-3800 with a general coaxial digital cable. An applied signal to AVC-3800 goes through demodulator IC(IC305), delivered to DSP (IC1) through input selector (IC315), DIR (IC18) and executed decode processing of AC-3.
The other one is connected in the same way as universal optical or coaxial digital signal. AVC-3800 corresponds with automatic shifting of AC-3 and other signal (PCM) according to input signal.
The signal of each input terminal is delivered to selector (IC315) and applied the same process as to AC-3RF afterward.
AC-3 data and PCM data are transmitted with a common line.

DSP (IC1) performs AC-3 decoding process, DOLBY PRO LOGIC process and PCM digital process and PCM digital process by shifting. Decoded signal to each channel is D/A converted and delivered to volume control.

Block Diagram of AC-3, PCM Input Section (1U-2959-1, 1U-2959-2)


AC-3 ONLY
AC-3 RF
AC-3 OR PCM
COAXIAL
OPTICAL
IC306
DE-MODULATOR
IC315
INPUT SELECTOR
IC18
DIR
IC1
DSP1
AC-3 DECODE OR PRO LOGIC DECODE
FRONT-L
FRONT-R
CENTER
SURROUND-L
SURROUND-R
SUBWOOFER
TO D/A Converter
(1U-2959-2)
(1U-2959-1)

INITIAL SETTING OF EACH MODE

	FRONT L LEV.	FRONT R LEV	CENTER LEVEL	SURROUND L LEV	SURROUND R LEV	S. WOOFER LEVEL	INPUT LEVEL	ROOM SIZE	EFFECT LEVEL	DELAY TIME	CINEMA EQ	DIALOG ✻1	DYNAMIC ✻1
DIRECT	0 dB	0 dB	—	—	—	0 dB	—	—	—	—	—	ON	[illegible]
STEREO	0 dB	0 dB	—	—	—	0 dB	0 dB	—	—	—	—	ON	[illegible]
EXTERNAL INPUTS	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	—	—	—	—	—	—	—
MONO	—	—	0 dB	—	—	0 dB	0 dB	—	—	—	—	—	—
5CH STEREO	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	—	—	—	—	—	—
DOLBY AC-3 or DLOBY PROLOGIC	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	—	—	—	OFF	ON	OFF
SUPER STADIUM	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	MED	10	—	—	—	—
ROCK ARENA	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	MED	10	—	—	—	—
JAZZ CLUB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	MED	10	—	—	—	—
CLASSIC CONCERT	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	MED	10	—	—	—	
MATRIX	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	—	—	—	30m sec	—	—	—

✻1 : Conditions in case for setting AC-3 data to ZR38500.

Others:
- Set MULTI/REC SELECT to SOURCE.
- Set TAPE MONITOR to OFF.
- Set VIDEO SELECT to OFF.
- Set MASTER VOL to - ∞.
- Each input should be set to analog input.
- Set TEST TONE to OFF.
- In case DEFAULT is selected for SURR. PARAMETERS setting menu, sets the appropriate parameter of ROOM SISE, EFFECT LEVEL, DELAY, CINEMA, D. COMP to the initial value of above table.

CONTROL ADVISABILITY OF EACH MODE

	FRONT L LEV.	FRONT R LEV	CENTER LEVEL	SURROUND L LEV	SURROUND R LEV	S. WOOFER LEVEL	INPUT LEVEL	ROOM SIZE	EFFECT LEVEL	DELAY TIME	CINEMA EQ	D. COMP	TEST TONE
DIRECT	O	O	X	X	X	O✻4	X	X	X	X	X	O✻7	O✻8
STEREO	O	O	X	X	X	O✻3	O✻6	X	X	X	X	O✻7	
EXTERNAL INPUTS	O	O	O✻1	O✻2	O✻2	O✻3	X	X	X	X	X	O✻7	
MONO	O✻5	O✻5	O✻5	X	X	O✻3	O✻6	X	X	X	X	X	
5CH STEREO	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	X	X	X	X	X	
DOLBY AC-3 or DLOBY PROLOGIC	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	X	X	X	O	O✻7	
SUPER STADIUM	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	O	O	X	X	X	
ROCK ARENA	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	O	O	X	X	X	
JAZZ CLUB	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	O	O	X	X	X	
CLASSIC CONCERT	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	O	O	X	X	X	
MATRIX	O	O	O✻1	O✻2	O✻2	O✻3	O✻6	X	X	O	X	X	

O : Feasible to control X : Infeasible to control

O✻1 : According to the contents of set up menu, when no center speaker is provided, with no controlling and sets - ∞ data to center electronic volume.
O✻2 : According to the contents of set up menu, when no surround speaker is provided, with no controlling and sets - ∞ data to surround electronic volume.
O✻3 : According to the contents of set up menu, when no woofer is provided, with no controlling and sets - ∞ data to woofer electronic volume.
O✻4 : No controlling when front speaker is set to LARGE.
O✻5 : According to the contents of set up menu, when no center speaker is provided, controls front L/R and not to control center. And when center speaker is set to SMALL or LARGE, controls center and not to control front L/R.
O✻6 : Feasible to control only at analog input. Note that, this function corresponds to each input channel.
O✻7 : Feasible to control only at AC-3 input.
O✻8 : Feasible to control TEST TONE in all modes of set up menu.

Additional note : Each mode's FRONT/CENTER/SURROUND/S. WOOFER DELAY should be set according to the setting contents of delay time for set up menu.

DIGITAL/ANALOG, SURROUND MODE IN EACH INPUT FUNCTION AND INITIAL SETTING OF DIGITAL FUNCTION

INPUT FUNCTION	DIGITAL/ANALOG	SURROUND MODE	DIGITAL FUNCTION
PHONO	FORCED ANALOG	STEREO	INFEASIBLE TO SET
CD	ANALOG	STEREO	COAXIAL
TUNER	FORCED ANALOG	STEREO	INFEASIBLE TO SET
VDP/DVD	ANALOG	DOLBY PRO LOGIC	OPTICAL
AC-3 RF	AUTO (FORCED DIGITAL)	DOLBY AC-3	AC-3 RF
TV/DBS	ANALOG	STEREO	OFF
V. AUX	ANALOG	STEREO	OFF
VCR-1	ANALOG	DOLBY PRO LOGIC	OFF
VCR-2	ANALOG	STEREO	OFF
DAT/TAPE-1	ANALOG	STEREO	OFF
TAPE-2	FORCED ANALOG	STEREO	INFEASIBLE TO SET

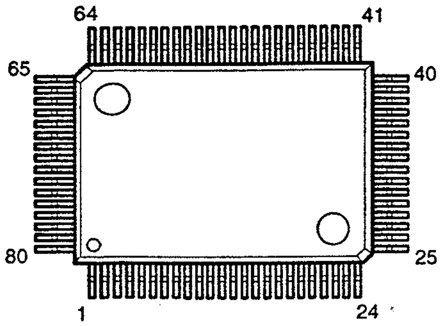
SEMICONDUCTORS

● IC's

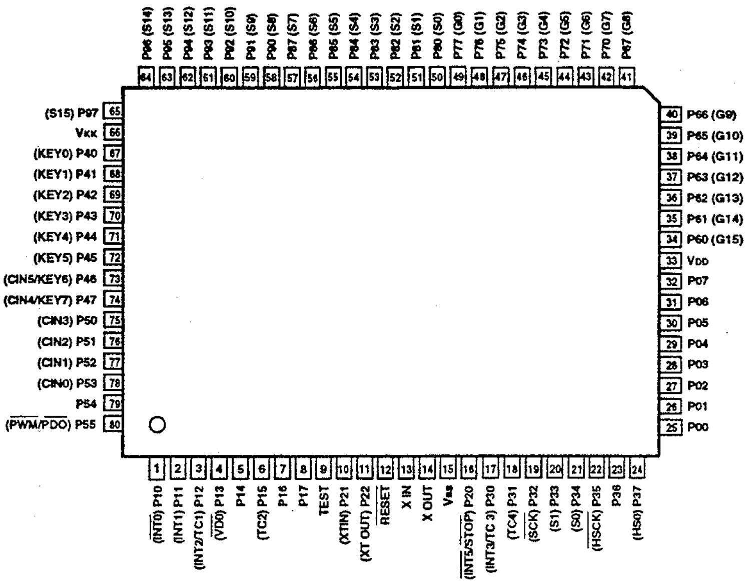
Note: Indications before IC numbers denote P.W.B. name.

AU	: Audio IN. Unit
VI	: Video P.W.B. Unit
DS	: DSP P.W.B. Unit
PS	: Power Supply P.W.B. Unit
Pr	: Pre Amp P.W.B. Unit

TMP87CS71F-6519 (DS: IC401)
TMP87CP71F-6520 (DS: IC402)



64
41
65
40
80
25
1
24



1 (INT0) P10
2 (INT1) P11
3 (INT2/TC1) P12
4 (VD0) P13
5 P14
6 (TC2) P15
7 P16
8 P17
9 TEST
10 (XTIN) P21
11 (XT OUT) P22
12 RESET
13 X IN
14 X OUT
15 Vss
16 (INT5/STOP) P20
17 (INT3/TC 3) P30
18 (TC4) P31
19 (SCK) P32
20 (S1) P33
21 (S0) P34
22 (HSCK) P35
23 P36
24 (HS0) P37
25 P00
26 P01
27 P02
28 P03
29 P04
30 P05
31 P06
32 P07
33 VDD
34 P60 (G15)
35 P61 (G14)
36 P62 (G13)
37 P63 (G12)
38 P64 (G11)
39 P65 (G10)
40 P66 (G9)
41 P67 (G8)
42 P70 (G7)
43 P71 (G6)
44 P72 (G5)
45 P73 (G4)
46 P74 (G3)
47 P75 (G2)
48 P76 (G1)
49 P77 (G0)
50 P80 (S0)
51 P81 (S1)
52 P82 (S2)
53 P83 (S3)
54 P84 (S4)
55 P85 (S5)
56 P86 (S6)
57 P87 (S7)
58 P90 (S8)
59 P91 (S9)
60 P92 (S10)
61 P93 (S11)
62 P94 (S12)
63 P95 (S13)
64 P96 (S14)
65 (S15) P97
66 VKK
67 (KEY0) P40
68 (KEY1) P41
69 (KEY2) P42
70 (KEY3) P43
71 (KEY4) P44
72 (KEY5) P45
73 (CIN5/KEY6) P46
74 (CIN4/KEY7) P47
75 (CIN3) P50
76 (CIN2) P51
77 (CIN1) P52
78 (CIN0) P53
79 P54
80 (PWM/PDO) P55

TMP87CS71F-6519 (IC401) Terminal Function

Pin No.	Port Name	Symbol	I/O	Type	Op	Det	Res	Ini	Function
1	P10/INT 0	PROTECTION IN	I	—	Eu	E&L	Z	H	Protection detecting input. (H: Detection)
2	P11/INT 1	DSP CLK IN	I	—	Eu	Ed	Z	H	DSP control terminal.
3	P12/INT 2	NC	O	C	—	—	Z	L	No connection.
4	P13/DVO	NC	O	C	—	—	Z	L	No connection.
5	P14	NC	O	C	—	—	Z	L	No connection.
6	P15/TC2	NC	O	C	—	—	Z	L	No connection.
7	P16	NC	O	C	—	—	Z	L	No connection.
8	P17	NC	O	C	—	—	Z	L	No connection.
9	TEST	TEST	I	—	GND	S	—	—	Connect to ground.
10	P21/XTIN	NC	O	N	—	—	Z	L	No connection.
11	P22/XTO	SCL	O	N	Eu	—	Z	H	MAIN-SUB microcomputer communication control terminal.
12	RESET	RESET	I	—	Eu	Lv	L	—	Reset input.
13	XIN	XIN	I	—	—	—	—	—	Oscillator circuit terminal. (4MHz)
14	XOUT	XOUT	O	—	—	—	—	—	Oscillator circuit terminal. (4MHz)
15	VSS	Vss	I	—	GND	—	—	—	Ground.
16	P20/INT 5	POWER OFF	I	—	Eu	Lv	Z	—	Power OFF detection terminal. (L: Power OFF)
17	P30/INT 3	REMOCON	I	—	Eu	E&L	Z	—	Remote signal input.
18	P31/TC4	SDA	O	N	Eu	S	Z	H	MAIN-SUB microcomputer communication control terminal.
19	P32/SCK	NC	O	N	—	—	Z	L	No connection.
20	P33/SI	NC	O	N	—	—	Z	L	No connection.
21	P34/SO	NC	O	N	—	—	Z	L	No connection.
22	P35/HSCK	OSD CLK	O	N	Eu	S	Z	H	OSD control output. (M35015)
23	P36	OSD CS	O	N	Eu	—	Z	H	OSD control output. (M35015)
24	P37/HSO	OSD DATA	O	N	Eu	S	Z	L	OSD control output. (M35015)
25	P00	OSD RES	O	C	—	—	Z	H	OSD control output. (M35015)
26	P01	FRONT	O	C	—	—	Z	H	Front SP out relay control output. (L: Mute)
27	P02	CENTER	O	C	—	—	Z	H	Center SP out relay control output. (L: Mute)
28	P03	REAR	O	C	—	—	Z	H	Rear SP out relay control output. (L: Mute)
29	P04	LED CK	O	C	—	S	Z	H	LED control terminal. (M66313)
30	P05	LED DATA	O	C	—	S	Z	H	LED control terminal. (M66313)
31	P06	LED LE	O	C	—	—	Z	H	LED control terminal. (M66313)
32	P07	LED OE	O	C	—	—	Z	H	LED control terminal. (M66313)
33	VDD	VDD	I	—	—	—	—	—	Connect to +5V power supply.
34	P60	VOL MUTE	O	P	Id	—	L	L	Control signal at minus infinite of master volume. (H: infinite)
35	P61	AC-3 RF DET.	I	—	—	—	L	L	AC-3 RF signal judgment input. (L: AC-3 data input)
36	P62	E. VOL CE2	O	P	Id	—	L	L	Master volume control output. (LC7536) (Center/Sub woofer, Rear L/R)
37	P63	E. VOL CE1	O	P	Id	—	L	L	Master volume control output. (LC7536) (Front L/R)
38	P64	E. VOL DATA	O	P	Id	—	L	H	Electronic volume control output. (LC7536)
39	P65	E. VOL CK	O	P	Id	—	L	H	Electronic volume control output. (LC7536)
40	P66	IN VOL ST	O	P	Id	—	L	L	Input volume control output. (TC9299)
41	P67	A/D RES	O	P	Id	—	L	L	A/D control terminal. (L: Reset and analog input)
42	P70	SEL	O	P	Id	—	L	H	DIR control terminal. (CS8412)
43	P71	SELCK	O	P	Id	—	L	H	DIR control terminal. (CS8412) (H: Digital, L: Analog)
44	P72	AC-3 MUTE	O	P	Id	—	L	H	Digital mute control terminal. (L: AC-3)
45	P73	FL RES	O	P	Id	—	L	L	Fluorescent display control output. (MSC1937)
46	P74	FL DATA	O	P	Id	S	L	H	Fluorescent display control output. (MSC1937)
47	P75	FL CLK	O	P	Id	S	L	H	Fluorescent display control output. (MSC1937)
48	P76	DSF1	O	P	Id	—	L	H	Emphasis control terminal.
49	P77	NC	O	P	Id	—	L	H	No connection.
50	P80	STANDBY LED	O	P	Id	—	L	H	Standby indication LED drive output. (H: Lighting)
51	P81	FRONT	O	P	Id	—	L	H	Front PRE out relay control output. (L: Mute)
52	P82	CENTER	O	P	Id	—	L	L	Center PRE out relay control output. (L: Mute)
53	P83	REAR	O	P	Id	—	L	L	Rear PRE out relay control output. (L: Mute)
54	P84	MULTI	O	P	Id	—	L	L	MULTI PRE out relay control output. (L: Mute)
55	P85	SUBWOOFER	O	P	Id	—	L	L	MONO PRE out relay control output. (L: Mute)

Pin No.	Port Name	Symbol	I/O	Type	Op	Det	Res	Ini	Function
56	P86	H/P	O	P	Id	—	L	H	H/P PRE out relay control output. (L: Mute)
57	P87	POWER	O	P	Id	—	L	H	Power supply relay control output. (H: ON)
58	P90	OVL	I	—	—	—	L	—	Over load detecting input. (H: Over load)
59	P91	AC-3 DET.	I	—	—	—	L	—	AC-3 decode data input terminal. (L: AC-3 decode)
60	P92	F0	I	—	—	—	L	—	DIR control input terminal. (CS8412)
61	P93	F1	I	—	—	—	L	—	DIR control input terminal. (CS8412)
62	P94	F2	I	—	—	—	L	—	DIR control input terminal. (CS8412)
63	P95	CSI	I	—	—	—	L	—	DIR control input terminal. (CS8412) (H: PCM)
64	P96	ERR	I	—	—	—	L	—	DIR control input terminal. (CS8412) (H: ERR)
65	P97	DSF2	O	P	Id	—	L	L	Emphasis control terminal.
66	VKK	VKK	I	—	—	—	—	—	Connect to ground.
67	P40/KEY0	S-MONITOR DET.	I	—	Eu	Lv	Z	—	Judgment whether S monitor is connected or not. (L: Connecting)
68	P41/KEY1	S-SIGNAL DET.	I	—	Eu	Lv	Z	—	S signal input control. (H: S signal input)
69	P42/KEY2	OSD SYNC DET.	I	—	Eu	Lv	Z	—	OSD sync switching signal. (H: External sync)
70	P43/KEY3	MVOL SELA	I	—	Eu	Lv	Z	H	Master volume setting signal. (Rotary encode)
71	P44/KEY4	MVOL SELB	I	—	Eu	Lv	Z	H	Master volume setting signal. (Rotary encode)
72	P45/KEY5	H/P DET.	I	—	Eu	Lv	Z	L	H/P input detection signal. (H: Detecting)
73	P46/CIN5	MODE	I	—	Eu	Lv	Z	—	Export country mode switching input.
74	P47/CIN4	KEY5	I	—	Eu	Lv	Z	H	Key input 5.
75	P50/CIN3	KEY4	I	—	Eu	Lv	Z	H	Key input 4.
76	P51/CIN2	KEY3	I	—	Eu	Lv	Z	H	Key input 3.
77	P52/CIN1	KEY2	I	—	Eu	Lv	Z	H	Key input 2.
78	P53/CIN0	KEY1	I	—	Eu	Lv	Z	H	Key input 1.
79	P54	SUB SYNC 1	I	—	Eu	Lv	Z	H	SUB microcomputer sync input.
80	P55/PMW	SO/ZORAN	I	—	Eu	Lv	Z	H	DSP data input terminal. (ZR38500)

NOTE:

Pin No.	: Terminal number of microcomputer.
Port Name	: The name entered in the data sheet of microcomputer.
Symbol	: Symbolized interface function.
I/O	: Input or out of part. "I" = Input port "O" = Output port
Type	: Composition of port in case of output port. "C" = CMOS output "N" = NMOS open drain output "P" = PMOS open drain output
Op	: Pull up/Pull down selection information. "Iu" = Inner microcomputer pull up "Id" = Inner microcomputer pull down "Eu" = External microcomputer pull up "Ed" = External microcomputer pull down
Det	: Indicates judging state of input port. Level detection is "LV"; Edge detection is "Ed"; Detection by both shifting is "E&L"; Serial data detection is "S" (Serial data output is also "S").
Res	: State at reset. "H" = Outputs High Level at reset "L" = Outputs Low Level at reset "Z" = Becomes High impedance mode at reset
Ini	: Initial output state.
Function	: Function and logical level explanation of signals to be interface.

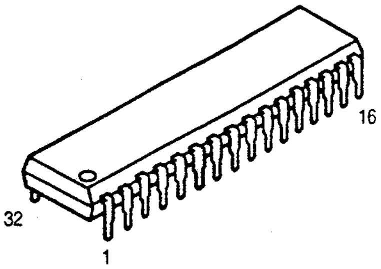
TMP87CP71AF-6520 (IC402) Terminal Function

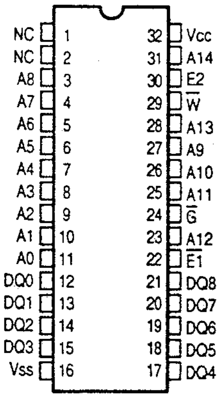
Pin No.	Port Name	Symbol	I/O	Type	Op	Det	Res	Ini	Function
1	P10/INT 0	DEMOD RES	O	C	—	—	Z	H	Demodulator reset control terminal. (L: Reset)
2	P11/INT 1	DEMOD POWER	O	C	—	—	Z	L	Demodulator power ON/OFF control terminal. (H: ON)
3	P12/INT 2	A/D POWER	O	C	—	—	Z	H	A/D converter power ON/OFF control terminal. (H: ON)
4	P13/DVO	CINEMA EQ	O	C	—	—	Z	L	Cinema EQ signal. (H: ON)
5	P14	DISCHARGE	O	C	—	—	Z	H	Pop noise prevention control terminal. (H: Power ON)
6	P15/TC2	NC	O	C	—	—	Z	L	No connection
7	P16	NC	O	C	—	—	Z	H	No connection
8	P17	NC	O	C	—	—	Z	L	No connection
9	TEST	TEST	I	—	GND	—	—	—	Connect to ground.
10	P21/XTIN	SUB SYNC1	O	N	Eu	—	Z	H	SUB microcomputer sync output.
11	P22/XTO	TONE	O	N	Eu	—	Z	L	Tone control terminal. (L: Direct, test tone ON)
12	RESET	RESET	I	—	Eu	Lv	L	—	Reset input.
13	XIN	XIN	I	—	—	—	—	—	Oscillator circuit terminal. (4 MHz)
14	XOUT	XOUT	O	—	—	—	—	—	Oscillator circuit terminal. (4 MHz)
15	VSS	VSS	I	—	GND	—	—	—	Ground.
16	P20/INT 5	POWER OFF	I	—	Eu	Lv	Z	—	Power OFF detection terminal. (L: Power OFF)
17	P30/INT 3	NC	I	—	Eu	S	Z	L	No connection
18	P31/TC4	CFG ST	O	N	Eu	S	Z	H	Speaker configuration SW (NJU7313AL) control terminal.
19	P32/SCK	SCL	I	—	Eu	S	Z	—	MAIN-SUB microcomputer communication control terminal.
20	P33/SI	SDA	I	—	Eu	S	Z	—	MAIN-SUB microcomputer communication control terminal.
21	P34/SO	CFG DATA	O	N	Eu	S	Z	H	Speaker configuration SW (NJU7313AL) control terminal.
22	P35/HSCK	DSP CLK	O	N	Eu	S	Z	H	DSP control terminal. (ZR38500)
23	P36	ZORAN SS	O	N	Eu	—	Z	H	DSP control terminal. (ZR38500)
24	P37/HSO	DSP DATA	O	N	Eu	S	Z	H	DSP control terminal. (ZR38500)
25	P00	CFG CLK	O	C	—	—	Z	H	Speaker configuration SW (NJU7313AL) control terminal.
26	P01	DSP RES(ZORAN)	O	C	—	—	Z	H	DSP control terminal. (ZORAN) (L: Reset)
27	P02	FUNC ST4	O	C	—	—	Z	L	Function control output (NJU7313AL) Hi-vision.
28	P03	FUNC ST3	O	C	—	—	Z	L	Function control output (TC9273) REC INH.
29	P04	FUNC ST2	O	C	—	—	Z	L	Function control output (TC9273) REC OUT.
30	P05	FUNC ST1	O	C	—	—	Z	L	Function control output (TC9274N) INPUT.
31	P06	FUNC DATA	O	C	—	S	Z	L	Function control output (TC9274N, NJU7313AL).
32	P07	FUNC CK	O	C	—	S	Z—	L	Function control output (TC9274N, NJU7313AL).
33	VDD	VDD	I	—	—	—	Z	—	Connect to +5V power supply.
34	P60	VIN A	O	P	Id	—	L	L	Video input control. (TC4051)
35	P61	VIN B	O	P	Id	—	L	L	Video input control. (TC4051)
36	P62	VIN C	O	P	Id	—	L	L	Video input control. (TC4051)
37	P63	VREC A	O	P	Id	—	L	L	Video output control. (TC4051)
38	P64	VREC B	O	P	Id	—	L	L	Video output control. (TC4051)
39	P65	VREC C	O	P	Id	—	L	L	Video output control. (TC4051)
40	P66	VINH 1	O	P	Id	—	L	L	Video output inhibit control. (HD14066)
41	P67	VINH 2	O	P	Id	—	L	L	Video output inhibit control. (HD14066)
42	P70	LIMIT	O	P	Id	—	L	L	Limiter control.
43	P71	$\overline{S1}$	O	P	Id	—	L	—	Video signal switching control output.
44	P72	S1	O	P	Id	—	L	—	Video signal switching control output.
45	P73	S2	O	P	Id	—	L	—	Video signal switching control output.
46	P74	NC	O	P	Id	—	L	H	No connection
47	P75	G 2	O	P	Id	—	L	—	LED display digit control signal.
48	P76	G 1	O	P	Id	—	L	—	LED display digit control signal.
49	P77	G 0	O	P	Id	—	L	—	LED display digit control signal.
50	P80	S (a)	O	P	Id	—	L	—	LED display segment control signal.
51	P81	S (b)	O	P	Id	—	L	—	LED display segment control signal.
52	P82	S (c)	O	P	Id	—	L	—	LED display segment control signal.
53	P83	S (d)	O	P	Id	—	L	—	LED display segment control signal.
54	P84	S (e)	O	P	Id	—	L	—	LED display segment control signal.
55	P85	S (f)	O	P	Id	—	L	—	LED display segment control signal.
56	P86	S (g)	O	P	Id	—	L	—	LED display segment control signal.
57	P87	S (h)	O	P	Id	—	L	—	LED display segment control signal.
58	P90	NC	I	—	Id	—	L	L	No connection
59	P91	DSP POWER	O	P	Id	—	L	L	DSP power supply control output. (H: ON)
60	P92	DIN A	O	P	Id	—	L	L	Digital input control terminal. (TC74HC151)
61	P93	DIN B	O	P	Id	—	L	L	Digital input control terminal. (TC74HC151)
62	P94	DIN C	O	P	Id	—	L	L	Digital input control terminal. (TC74HC151)
63	P95	NC	I	—	Id	—	L	L	No connection
64	P96	NC	I	—	Id	—	L	L	No connection
65	P97	NC	I	—	Id	—	L	L	No connection
66	VKK	GND	I	—	—	—	—	—	Connect to ground.
67	P40/KEY0	NC	I	—	—	—	Z	L	No connection
68	P41/KEY1	NC	I	—	—	—	Z	L	No connection
69	P42/KEY2	NC	I	—	—	—	Z	L	No connection
70	P43/KEY3	NC	I	—	—	—	Z	L	No connection
71	P44/KEY4	NC	I	—	—	—	Z	L	No connection
72	P45/KEY5	NC	I	—	—	—	Z	L	No connection
73	P46/CIN5	NC	I	—	—	—	Z	L	No connection
74	P47/CIN4	NC	I	—	—	—	Z	L	No connection
75	P50/CIN3	NC	I	—	—	—	Z	L	No connection
76	P51/CIN2	NC	I	—	—	—	Z	L	No connection
77	P52/CIN1	NC	I	—	—	—	Z	L	No connection
78	P53/CIN0	NC	I	—	—	—	Z	L	No connection
79	P54	NC	I	—	—	—	Z	L	No connection
80	P55/PMW	NC	I	—	—	—	Z	L	No connection

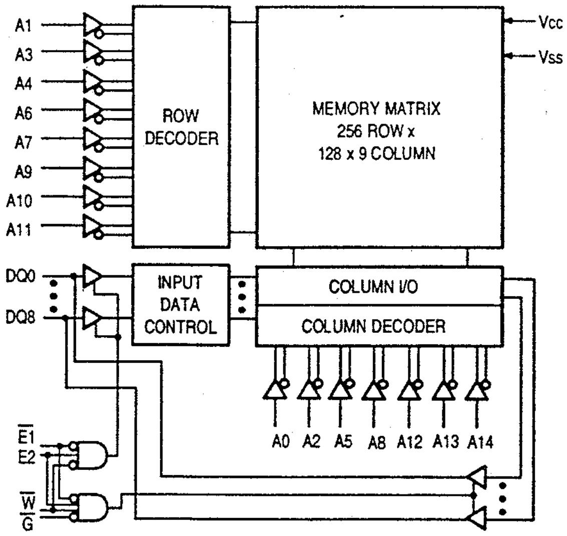
NOTE:

Pin No. : Terminal number of microcomputer.
Port Name : The name entered in the data sheet of microcomputer.
Symbol : Symbolized interface function.
I/O : Input or out of part.
"I" = Input port
"O" = Output port
Type : Composition of port in case of output port.
"C" = CMOS output
"N" = NMOS open drain output
"P" = PMOS open drain output
Op : Pull up/Pull down selection information.
"Iu" = Inner microcomputer pull up
"Id" = Inner microcomputer pull down
"Eu"= External microcomputer pull up
"Ed"= External microcomputer pull down
Det : Indicates judging state of input port. Level detection is "LV"; Edge detection is "Ed"; Detection by both shifting is "E&L"; Serial data detection is "S" (Serial data output is also "S").
Res : State at reset.
"H" = Outputs High Level at reset
"L" = Outputs Low Level at reset
"Z" = Becomes High impedance mode at reset
Ini : Initial output state.
Function : Function and logical level explanation of signals to be interface.

MCM6205D-15
(DS: IC051, 052, 308)



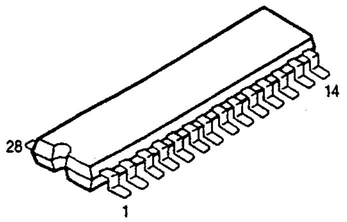

NC 1
NC 2
A8 3
A7 4
A6 5
A5 6
A4 7
A3 8
A2 9
A1 10
A0 11
DQ0 12
DQ1 13
DQ2 14
DQ3 15
Vss 16
32 Vcc
31 A14
30 E2
29 $\overline{W}$
28 A13
27 A9
26 A10
25 A11
24 $\overline{G}$
23 A12
22 $\overline{E1}$
21 DQ8
20 DQ7
19 DQ6
18 DQ5
17 DQ4

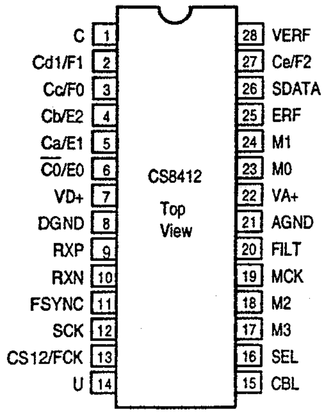

A1
A3
A4
A6
A7
A9
A10
A11
ROW DECODER
MEMORY MATRIX 256 ROW x 128 x 9 COLUMN
Vcc
Vss
DQ0
DQ8
INPUT DATA CONTROL
COLUMN I/O
COLUMN DECODER
A0 A2 A5 A8 A12 A13 A14
$\overline{E1}$
E2
$\overline{W}$
$\overline{G}$

MCM6205D-15 Terminal Function

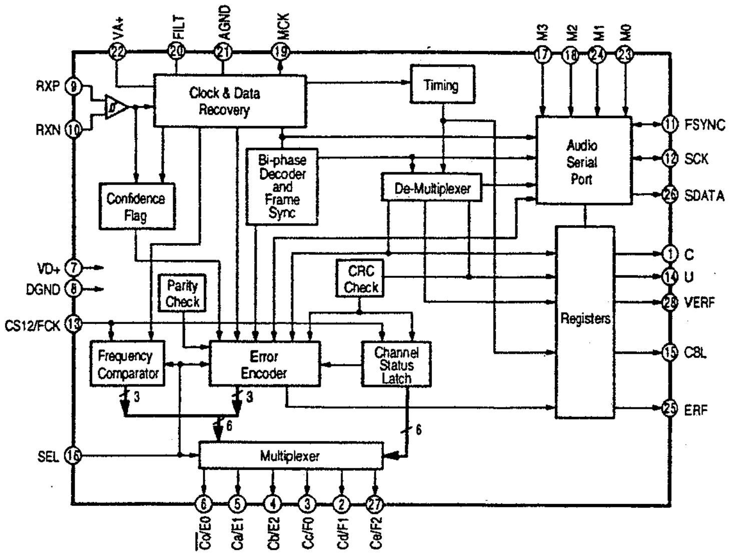
Pin No.	Symbol	I/O	Function
1	N.C.	–	No connection.
2	N.C.	–	No connection.
3	A8	I	Address 8 input.
4	A7	I	Address 7 input.
5	A6	I	Address 6 input.
6	A5	I	Address 5 input.
7	A4	I	Address 4 input.
8	A3	I	Address 3 input.
9	A2	I	Address 2 input.
10	A1	I	Address 1 input.
11	A0	I	Address 0 input.
12	DQ0	I/O	Data input/output.
13	DQ1	I/O	Data input/output.
14	DQ2	I/O	Data input/output.
15	DQ3	I/O	Data input/output.
16	GND	–	Ground.
17	DQ4	I/O	Data input/output.
18	DQ5	I/O	Data input/output.
19	DQ6	I/O	Data input/output.
20	DQ7	I/O	Data input/output.
21	DQ8	I/O	Data input/output.
22	$\overline{E}$	I	Chip enable input.
23	A12	I	Address 12 input.
24	$\overline{G}$	I	Output buffer control input signal.
25	A11	I	Address 11 input.
26	A10	I	Address 10 input.
27	A9	I	Address 9 input.
28	A13	I	Address 13 input.
29	$\overline{W}$	I	Write enable input.
30	E2	I	Chip enable input.
31	A14	I	Address 14 input.
32	Vcc	–	+5V power supply.

CS8412CS
(DS: IC18)





C 1
Cd1/F1 2
Cc/F0 3
Cb/E2 4
Ca/E1 5
C0/E0 6
VD+ 7
DGND 8
RXP 9
RXN 10
FSYNC 11
SCK 12
CS12/FCK 13
U 14
28 VERF
27 Ce/F2
26 SDATA
25 ERF
24 M1
23 M0
22 VA+
21 AGND
20 FILT
19 MCK
18 M2
17 M3
16 SEL
15 CBL
CS8412
Top
View

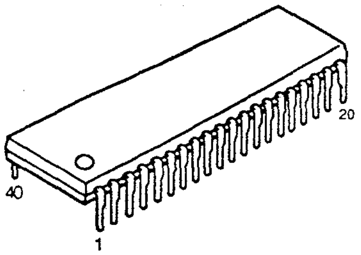


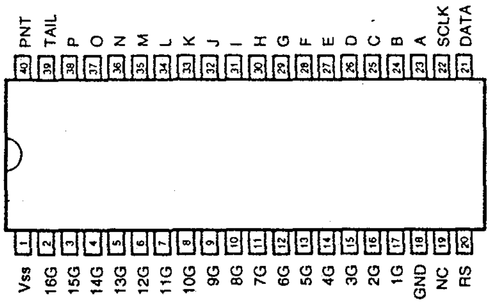
VA+ 22
FILT 20
AGND 21
MCK 19
M3 17
M2 18
M1 24
M0 23
RXP 9
RXN 10
Clock & Data Recovery
Timing
Audio Serial Port
11 FSYNC
12 SCK
26 SDATA
Bi-phase Decoder and Frame Sync
De-Multiplexer
Confidence Flag
VD+ 7
DGND 8
CS12/FCK 13
Parity Check
CRC Check
Registers
1 C
14 U
28 VERF
15 CBL
25 ERF
Frequency Comparator
Error Encoder
Channel Status Latch
3
3
6
6
SEL 16
Multiplexer
6 Co/E0
5 Ca/E1
4 Cb/E2
3 Cc/F0
2 Cd/F1
27 Ce/F2

CS8412CS Terminal Function

Pin No.	Symbol	I/O	Function
1	C	I	C.S. bit input.
2	Cd F1	O	C.S. bit output/Frequency indication (H: C.S. bit output, L: Frequency indication). CO="0" in C.S. bit is for professional use, and CO="1" is for general use.
3	Cc F0		
4	Cd E2	O	C.S. bit output/Error indication (H: C.S. bit output, L: Error indication). CO="0" in C.S. bit is for professional use, and CO="1" is for general use.
5	Ca E1		
6	C0/E0		
7	VD+	–	Digital +5V power supply.
8	DGND	–	Connect to digital ground.
9	RXN	I	Differential line receiver signal. Compatible with RS422.
10	RXP		
11	FSYNC	I/O	Frame sync signal.
12	SCK	I/O	Serial clock signal, 32 clock is included with each audio sample in output status.
13	CS12/FCK	I	Channel selection/Reference frequency (H: Channel selection, L: Reference frequency). CS12 selects the channel output to C.S. terminal. "0" is for sub frame 1, and "1" is for sub frame2. Input frequency can be detected by 6.144 MHz clock input to FCK.
14	U	I	User (U) bit terminal.
15	CBL	O	C.S. block output terminal.
16	SEL	I	C.S. $\overline{\text{F2-F0}}$, E2-E0 selection signal (H: C.S. bit output, L: Frequency/Error indication).
17	M3	I	Serial port mode select signal.
18	M2		
19	MCK	I	Master clock signal (Low jitter clock output with 256 times of receiving frequency).
20	FILT	I	Filter terminal, connect resistor 1kohm and capacitor 0.047 μF between this terminal and AGND.
21	AGND	–	Connect to analog ground.
22	VA+	–	Analog +5V power supply (Noise for this power supply should be minized as lower as possible since it affects jitter's performance of playback clock directly).
23	M0	I	Serial port mode select signal.
24	M1		
25	ERF	O	Error flag aignal.
26	SDATA	O	Serial data signal.
27	Ce F2	O	C.S. bit output/Frequency indication (H: C.S. bit output, L: Frequency indication). CO="0" in C.S. bit is for professional use, and CO="1" is for general use.
28	VERF	O	Parity and Error flag signal.

MSC1937-03RS
(VI: IC102)

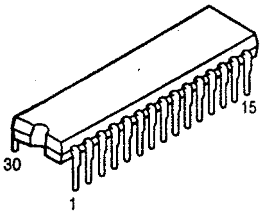


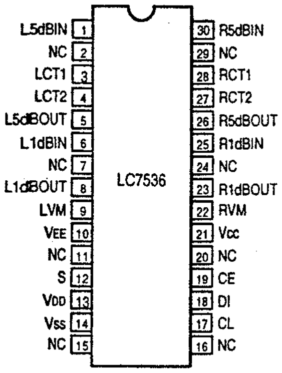

PNT
TAIL
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
SCLK
DATA
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Vss
16G
15G
14G
13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
GND
NC
RS

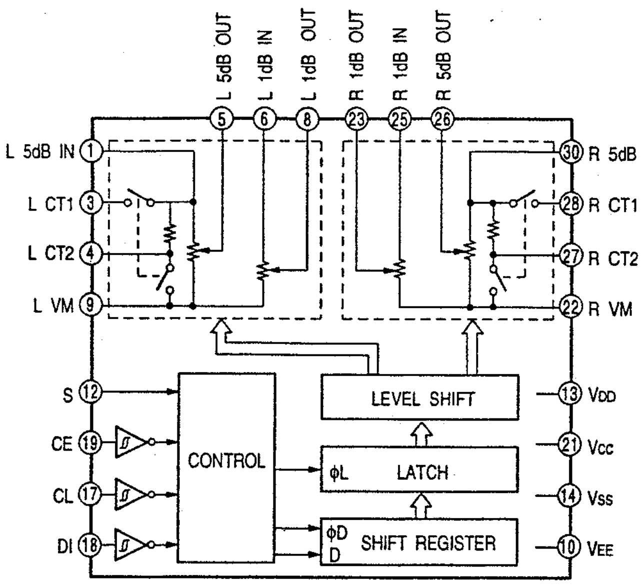
MSC1937-03RS Terminal Function

Pin No.	Symbol	I/O	Function
1	Vss	–	Power supply (+5V).
2	16G	O	Digit 16 output.
3	15G	O	Digit 15 output.
4	14G	O	Digit 14 output.
5	13G	O	Digit 13 output.
6	12G	O	Digit 12 output.
7	11G	O	Digit 11 output.
8	10G	O	Digit 10 output.
9	9G	O	Digit 9 output.
10	8G	O	Digit 8 output.
11	7G	O	Digit 7 output.
12	6G	O	Digit 6 output.
13	5G	O	Digit 5 output.
14	4G	O	Digit 4 output.
15	3G	O	Digit 3 output.
16	2G	O	Digit 2 output.
17	1G	O	Digit 1 output.
18	GND	–	Ground.
19	NC	–	No connection.
20	RS	I	POWER-ON-RESET. (H: RESET)
21	DATA	I	Data input.
22	SCLK	I	Shift clock input.
23	A	O	Seg,ent A output.
24	B	O	Segment B output.
25	C	O	Segment C output.
26	D	O	Segment D output.
27	E	O	Segment E output.
28	F	O	Segment F output.
29	G	O	Segment G output.
30	H	O	Segment H output.
31	I	O	Segment I output.
32	J	O	Segment J output.
33	K	O	Segment K output.
34	L	O	Segment L output.
35	M	O	Segment M output.
36	N	O	Segment N output.
37	O	O	Segment O output.
38	P	O	Segment P output.
39	TAIL	–	No connection.
40	PNT	O	Point output.

LC7536
(AU: IC503, 504)
(Pr: IC601, 604)



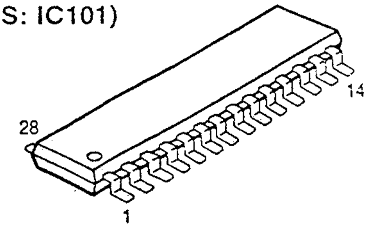

L5dBIN 1
NC 2
LCT1 3
LCT2 4
L5dBOUT 5
L1dBIN 6
NC 7
L1dBOUT 8
LVM 9
VEE 10
NC 11
S 12
VDD 13
Vss 14
NC 15
LC7536
30 R5dBIN
29 NC
28 RCT1
27 RCT2
26 R5dBOUT
25 R1dBIN
24 NC
23 R1dBOUT
22 RVM
21 Vcc
20 NC
19 CE
18 DI
17 CL
16 NC

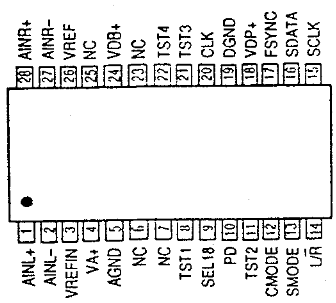

L 5dB OUT
L 1dB IN
L 1dB OUT
R 1dB OUT
R 1dB IN
R 5dB OUT
5
6
8
23
25
26
L 5dB IN 1
L CT1 3
L CT2 4
L VM 9
30 R 5dB IN
28 R CT1
27 R CT2
22 R VM
S 12
CE 19
CL 17
DI 18
CONTROL
LEVEL SHIFT
φL LATCH
φD D SHIFT REGISTER
13 VDD
21 Vcc
14 Vss
10 VEE

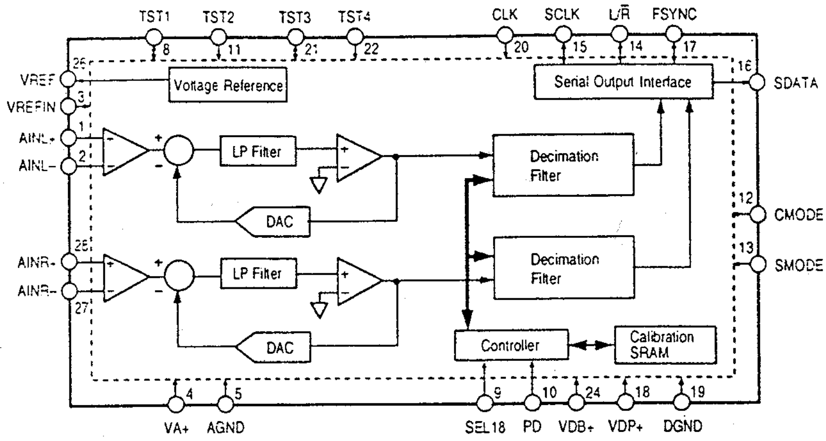
LC7536 Terminal Function

Pin No.	Symbol	I/O	Function
1	L 5dB IN	I	Input terminal for 5dB step attenuator, it should be driven with low impedance path.
2	NC	–	No connection.
3	L CT1	I	For loudness control, connect a capacitor between CT1 and 5dB IN with high frequency compensation, and also connect a capacitor between CT2 and Vm with low frequency compensation.
4	L CT2		
5	L 5dBOUT	O	Output terminal for 5dB step attenuator with approx. 1Mohm load impedance.
6	L 1dBIN	I	Input terminal for 1dB step attenuator, it should be driven with low impedance.
7	NC	–	No connection.
8	L 1dBOUT	O	Output terminal for 1dB step attenuator with approx. 47kohm ~ 1Mohm load impedance.
9	L V_M		Common terminal for volume control.
10	V_{EE}	I	Connect to power supply.
11	NC	–	No connection.
12	S		Selection terminal for address code during data format.
13	V_{DD}	I	Connect to power supply (Pay attention to the rising time so that Vcc does rise up faster than V_{DD} when the power turns).
14	Vss	I	Connect to power supply.
15	NC	–	No connection.
16	NC	–	No connection.
17	CL	I	Input terminal for controlling LC7536 serial data with 0 ~ 5V amplitude.
18	DI		
19	CE		
20	NC	–	No connection.
21	Vcc	I	Connect power supply (Pay attention to the rising time so that Vcc does not rise up faster than V_{DD} when the power turns).
22	R V_M		Common terminal for volume control.
23	R 1dBOUT	O	Output terminal for 1dB step attenuator with approx. 47kohm ~ 1Mohm load impedance.
24	NC	–	No connection.
25	R 1dBIN	I	Input terminal for 1dB step attenuator, it should be driven with low impedance.
26	R 5dBOUT	O	Output terminal for 5dB step attenuator with approx. 1Mohm load impedance.
27	R CT2		For loudness control, connect a capacitor between CT1 and 5dBIN with high frequency compensation, and also connect a capacitor between CT2 and Vm with low frequency compensation.
28	R CT1		
29	NC	–	No connection.
30	R SdBIN	I	Input terminal for 5dB step attenuator, it should be driven with low impedance path.

AK5340VS
(DS: IC101)




28 AINR+
27 AINR-
26 VREF
25 NC
24 VDB+
23 NC
22 TST4
21 TST3
20 CLK
19 DGND
18 VDP+
17 FSYNC
16 SDATA
15 SCLK
1 AINL+
2 AINL-
3 VREFIN
4 VA+
5 AGND
6 NC
7 NC
8 TST1
9 SEL18
10 PD
11 TST2
12 CMODE
13 SMODE
14 L/R̄

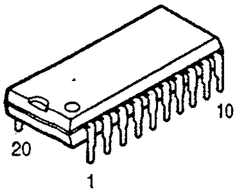

TST1
TST2
TST3
TST4
CLK
SCLK
L/R̄
FSYNC
8
11
21
22
20
15
14
17
VREF
VREFIN
AINL+
AINL-
AINR-
AINR-
26
3
1
2
25
27
16
12
13
SDATA
CMODE
SMODE
Voltage Reference
Serial Output Interface
LP Filter
LP Filter
DAC
DAC
Decimation Filter
Decimation Filter
Controller
Calibration SRAM
4
5
9
10
24
18
19
VA+
AGND
SEL18
PD
VDB+
VDP+
DGND

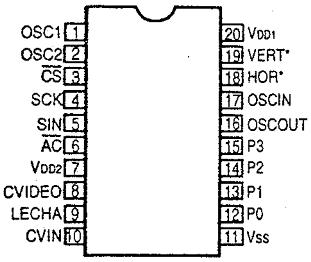
AK5340VS Terminal Function

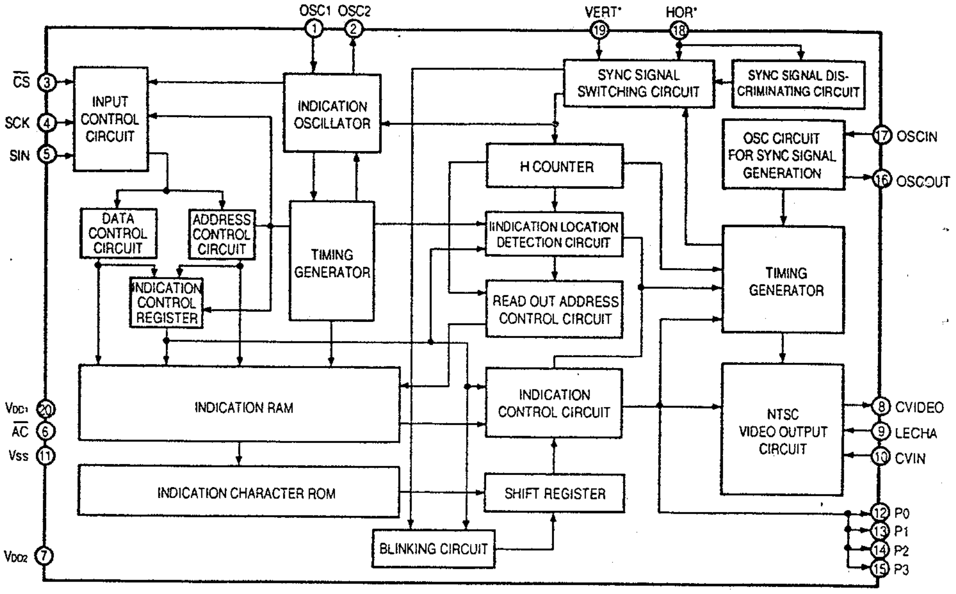
Pin No.	Symbol	I/O	Function
1	AINL+	I	L ch analog non inverting input.
2	AINL–	I	L ch analog inverting input.
3	VREFIN	I	Reference voltage input.
4	VA+	—	Analog +5V power supply.
5	AGND	—	Analog ground.
6	NC		No connection.
7	NC		No connection.
8	TST1		Test terminal, open or connect to DGND.
9	SEL18	I	Output data length selecting terminal (built in pull down resistance) (L: 16 bit, H: 18 bit).
10	PD	I	Power down signal (H: Power down).
11	TST2		Test terminal, open or connect to DGND.
12	CMODE	I	Master clock selecting terminal. L: CLK = 256fs (12.288MHz @fs = 48kHz) H: CLK = 384fs (18.432MHz @fs = 48kHz)
13	SMODE	I	Interface clock selecting terminal (L: Slave mode, H: Master mode).
14	L/R̄	I/O	Input channel selecting terminal. Slave mode: fs clock input. Master mode: fs clock output.
15	SCLK	I/O	Serial data clock terminal. Slave mode: 32fs – 64fs clock input. Master mode: 64fs clock output.
16	SDATA	O	Serial data output terminal, data sequence output from MSB with 2's complement.
17	FSYNC	I/O	Frame sync clock terminal. Slave mode: Enable SDATA output at H. Master mode: 2fs clock output.
18	VDP+	—	Digital +5V power supply.
19	DGND	—	Digital ground.
20	CLK	I	Master clock input terminal. CMODE = "H" = 384fs CMODE = "L" = 256fs
21	TST3		Test terminal, open or connect to DGND.
22	TST4		Test terminal, open or connect to DGND.
23	NC		No connection.
24	VDB+	—	Digital +5V power supply.
25	NC		No connection.
26	VREF	O	Reference voltage output.
27	AINR–	I	R ch analog inverting input.
28	AINR+	I	R ch analog non inverting input.

Note: All other terminals except the above are no connection (NC). NC terminals are not bonded internally.

M35015-204SP
(VI: IC414)



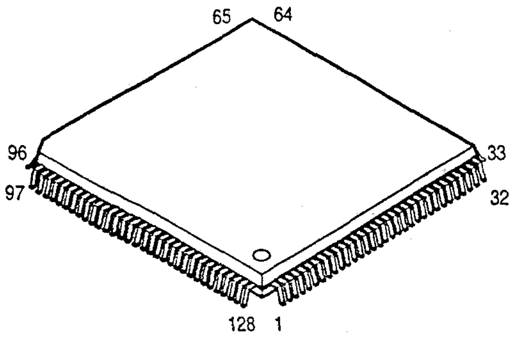

OSC1 1
OSC2 2
CS 3
SCK 4
SIN 5
AC 6
VDD2 7
CVIDEO 8
LECHA 9
CVIN 10
20 VDD1
19 VERT*
18 HOR*
17 OSCIN
16 OSCOUT
15 P3
14 P2
13 P1
12 P0
11 Vss

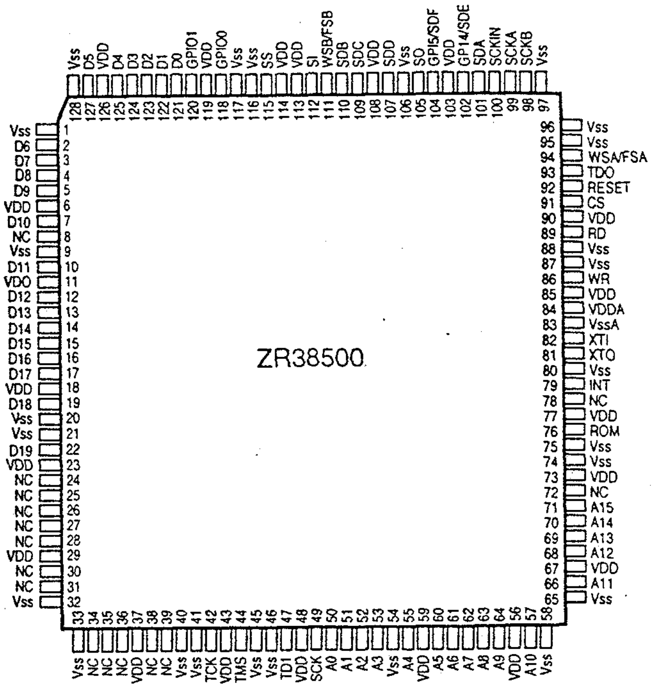

OSC1 OSC2
1 2
VERT* HOR*
19 18
CS 3
SCK 4
SIN 5
INPUT CONTROL CIRCUIT
INDICATION OSCILLATOR
SYNC SIGNAL SWITCHING CIRCUIT
SYNC SIGNAL DIS-CRIMINATING CIRCUIT
OSC CIRCUIT FOR SYNC SIGNAL GENERATION
17 OSCIN
16 OSCOUT
H COUNTER
DATA CONTROL CIRCUIT
ADDRESS CONTROL CIRCUIT
TIMING GENERATOR
INDICATION LOCATION DETECTION CIRCUIT
INDICATION CONTROL REGISTER
READ OUT ADDRESS CONTROL CIRCUIT
TIMING GENERATOR
VDD1 20
AC 6
Vss 11
INDICATION RAM
INDICATION CONTROL CIRCUIT
NTSC VIDEO OUTPUT CIRCUIT
8 CVIDEO
9 LECHA
10 CVIN
INDICATION CHARACTER ROM
SHIFT REGISTER
12 P0
13 P1
14 P2
15 P3
BLINKING CIRCUIT
VDD2 7

M35015-204SP Terminal Function

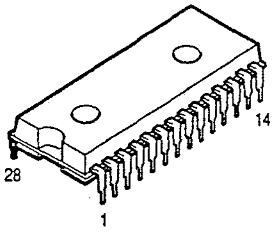
Pin No.	Symbol	Name	I/O	Function
1	OSC1	Osc. circuit ext. terminal.	I	External terminal for indication oscillator circuit. Standard OSC. freq. is approx. 7MHz.
2	OSC2		O	With this OSC. freq., decides horizontal indicatin and character width.
3	$\overline{CS}$	Chip select input	I	Chip select terminal and turns to "L" when transfer serial data. Hysteresis input. Pull up resistor is built-in.
4	SCK	Serial clock input	I	Takes in serial data of SIN at SCK rise when $\overline{CS}$ terminal is in "L". Hysteresis input. Pull up rersist is built-in.
5	SIN	Serial data input	I	Serial input of register for indication control and data, and address for indication data memory. Hysteresis input. Pull up rersistor is built-in.
6	$\overline{AC}$	Auto-clear input	I	Resets internal circuit of IC at "L" mode. Hysteresi input. Pull up resistor is built-in.
7	VDD2	Power supply	—	Power supply terminal of analog system. Connect to +5V.
8	CVIDEO	Combined video output	O	Output terminal of combined video signal. Outputs 2Vp-p combined signal. Character output, etc. Overlap CVIN signal and outputs at superimpose.
9	LECHA	Character level input	I	Input terminal deciding character output level in combined video signal. color of character is white.
10	CVIN	Combined video input	I	Input terminal of external combined video signal. Character output etc. overlap this external combined video signal.
11	Vss	Ground	—	Ground terminal. Connect to GND.
12	P0	Output port p0	O	General output or character background signal BL NK1* output is switchable. Polarity can be selected at ROM mask.
13	P1	Output port P1	O	General output or character background signal CO1* output is switchable. Polarity can be selected at ROM mask.
14	P2	Output port P2	O	General output or character background signal BLNK2* output is switchable. Polarity can be selected at ROM mask.
15	P3	Output port P3	O	General output or character background signal CO2* output is switchable. Polarity can be selected at ROM mask.
16	OSCOUT	Ext. terminal for sync sig. OSC. Circuit	O	Terminal for external use of sync signal OSC. circuit. Use the freq.: 14.32MHz at NTSC
17	OSCIN		I	system, 17.73MHz at PAL. system, 14.30MHz at MPAL system.
18	HOR*	Horizontal sync signal	I	Inputs horizontal sync signal. Hysteresis input.
19	VERT*	Vertical sync signal	—	Input vertical sync signal. Hysteresis input. Polarity can be selected at ROM mask.
20	VDD1	Power supply	I	Power supply terminal of digital system. Connect to +5V.

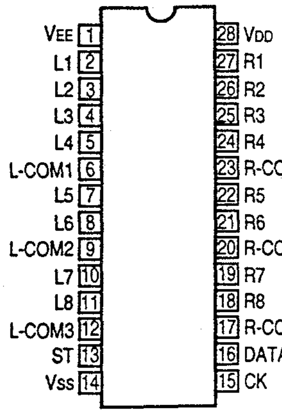
ZR38500 (A3) (DS: IC001)

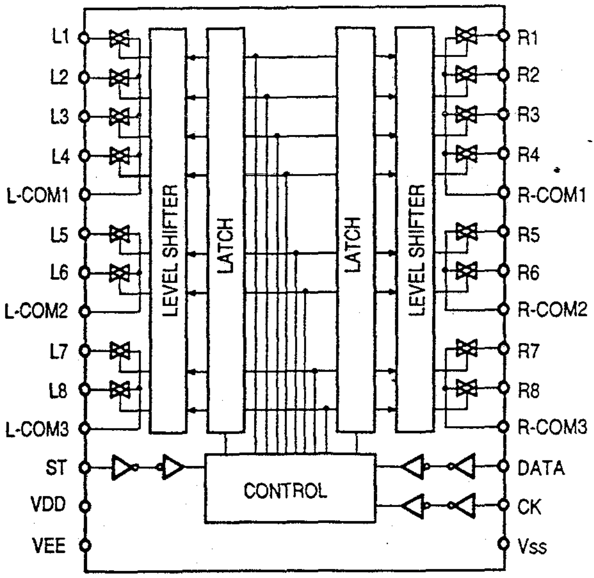

65
64
96
33
97
32
128
1


ZR38500
1 Vss
2 D6
3 D7
4 D8
5 D9
6 VDD
7 D10
8 NC
9 Vss
10 D11
11 VDO
12 D12
13 D13
14 D14
15 D15
16 D16
17 D17
18 VDD
19 D18
20 Vss
21 Vss
22 D19
23 VDD
24 NC
25 NC
26 NC
27 NC
28 NC
29 VDD
30 NC
31 NC
32 Vss
33 Vss
34 NC
35 NC
36 NC
37 VDD
38 NC
39 NC
40 Vss
41 Vss
42 TCK
43 VDD
44 TMS
45 Vss
46 Vss
47 TD1
48 VDD
49 SCK
50 A0
51 A1
52 A2
53 A3
54 Vss
55 A4
59 VDD
60 A5
61 A6
62 A7
63 A8
64 A9
56 VDD
57 A10
58 Vss
65 Vss
66 A11
67 VDD
68 A12
69 A13
70 A14
71 A15
72 NC
73 VDD
74 Vss
75 Vss
76 ROM
77 VDD
78 NC
79 INT
80 Vss
81 XTO
82 XTI
83 VssA
84 VDDA
85 VDD
86 WR
87 Vss
88 Vss
89 RD
90 VDD
91 CS
92 RESET
93 TDO
94 WSA/FSA
95 Vss
96 Vss
97 Vss
98 SCKB
99 SCKA
100 SCKIN
101 SDA
102 GP14/SDE
103 VDD
104 GPI5/SDF
105 SO
106 Vss
107 SDD
108 VDD
109 SDC
110 SDB
111 WSB/FSB
112 SI
113 VDD
114 VDD
115 SS
116 Vss
117 Vss
118 GPIO0
119 VDD
120 GPIO1
121 D0
122 D1
123 D2
124 D3
125 D4
126 VDD
127 D5
128 Vss

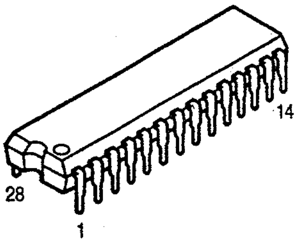
NJU7313AL (DS: IC208) (AU: IC605)

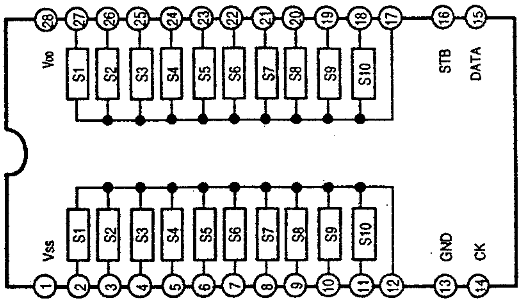



VEE 1
L1 2
L2 3
L3 4
L4 5
L-COM1 6
L5 7
L6 8
L-COM2 9
L7 10
L8 11
L-COM3 12
ST 13
Vss 14
28 VDD
27 R1
26 R2
25 R3
24 R4
23 R-COM1
22 R5
21 R6
20 R-COM2
19 R7
18 R8
17 R-COM3
16 DATA
15 CK


L1
L2
L3
L4
L-COM1
L5
L6
L-COM2
L7
L8
L-COM3
ST
VDD
VEE
LEVEL SHIFTER
LATCH
LATCH
LEVEL SHIFTER
CONTROL
R1
R2
R3
R4
R-COM1
R5
R6
R-COM2
R7
R8
R-COM3
DATA
CK
Vss

TC9273N-004 (AU: IC111) (Pr: IC751)

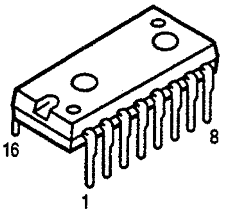


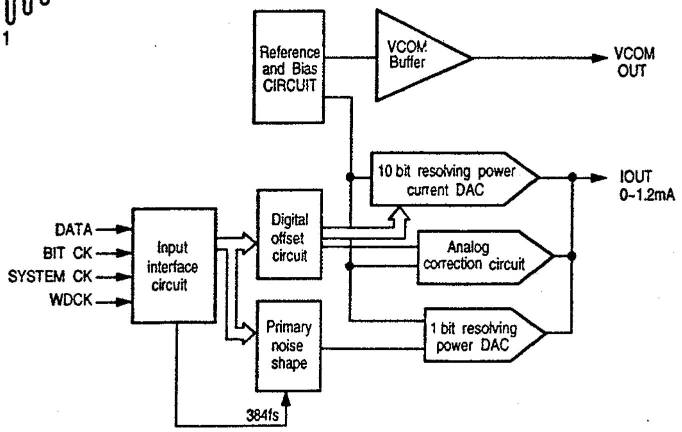

VDD
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
STB
DATA
Vss
GND
CK
28
27
26
25
24
23
22
21
20
19
18
17
16
15
1
2
3
4
5
6
7
8
9
10
11
12
13
14

TC9273N-004 Terminal Function

Pin No.	Symbol	I/O	Function
1	Vss	–	Use for double power supply: VDD = 8.0 ~ 17V GND = 0V Vss = -8.0 ~ -17V Use for signal power terminal: VDD = 8.0 ~ 18V Vss = GND = 0V
2~12	S1~10	I	Analog switch input terminal.
13	GND	–	Use for double power supply: VDD = 8.0 ~ 17V GND = 0V Vss = -8.0 ~ -17V Use for signal power terminal: VDD = 8.0 ~ 18V Vss = GND = 0V
14	CK	I	Clock input for data transfer.
15	DATA	I	Serial input for switch setting.
16	STB	I	Strobe input for data reading.
17~27	S1~10	I	Analog switch input terminal.
28	VDD	–	Use for double power supply: VDD = 8.0 ~ 17V GND = 0V Vss = -8.0 ~ -17V Use for signal power terminal: VDD = 8.0 ~ 18V Vss = GND = 0V

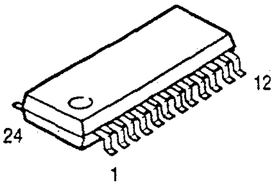
PCM69AP
(DS: IC504, 505, 506)

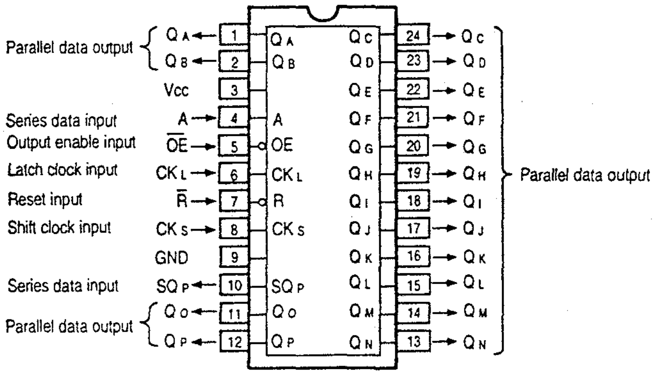


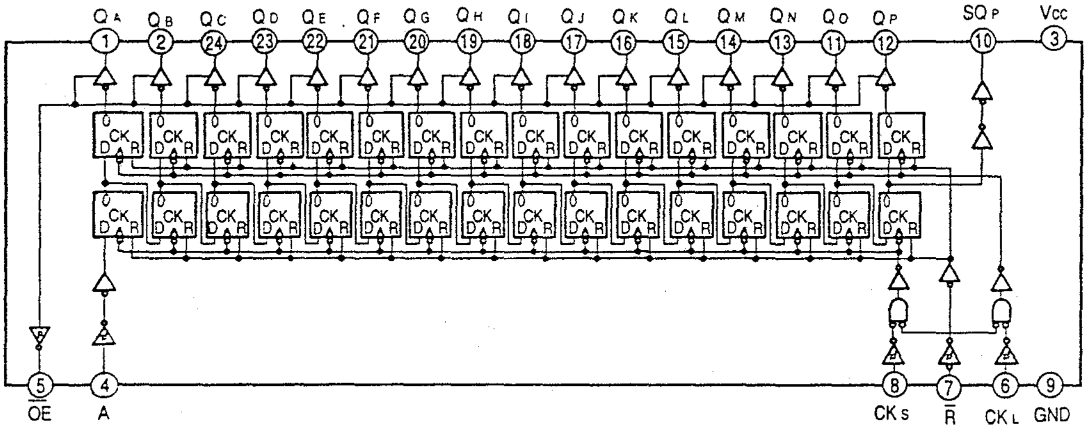

Reference and Bias CIRCUIT
VCOM Buffer
VCOM OUT
10 bit resolving power current DAC
IOUT 0-1.2mA
DATA
BIT CK
SYSTEM CK
WDCK
Input interface circuit
Digital offset circuit
Analog correction circuit
Primary noise shape
1 bit resolving power DAC
384fs

Pin No.	Function
1	+Vcc (Analog power supply)
2	Vcom. Lch
3	Lout. Lch
4	Servo. DC
5	REF. DC
6	Lout. Rch
7	Vcom. Rch
8	A-GND (Analog common)
9	D-GND (Digital common)
10	DATA Rch
11	BCK
12	SYS CLK
13	WDCK
14	DATA Lch
15	TP1
16	+VDD (Digital power supply)

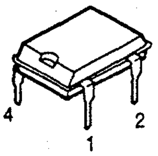
M66310FP
(VI: IC101)

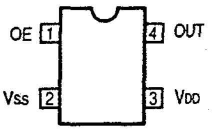



Parallel data output
QA
QB
Vcc
Series data input
A
Output enable input
OE
Latch clock input
CKL
Reset input
R
Shift clock input
CKS
GND
Series data input
SQP
Parallel data output
QO
QP
1
2
3
4
5
6
7
8
9
10
11
12
QA
QB
A
OE
CKL
R
CKS
SQP
QO
QP
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
24
23
22
21
20
19
18
17
16
15
14
13
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
Parallel data output

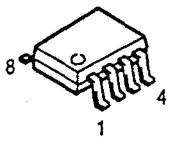

QA
QB
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
QO
QP
SQP
Vcc
1
2
24
23
22
21
20
19
18
17
16
15
14
13
11
12
10
3
D
CK
R
5
4
8
7
6
9
OE
A
CKS
R
CKL
GND

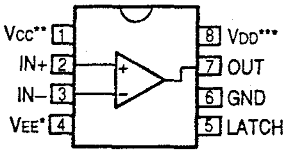
SG-531PH (33MHz)
(DS: IC003)
SG-531PH (46.08MHz)
(DS: IC307)
SG-531PH (12.288MHz)
(DS: IC102)




OE
1
Vss
2
4
OUT
3
VDD

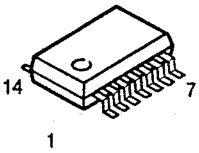
NJM360M
(DS: IC303)



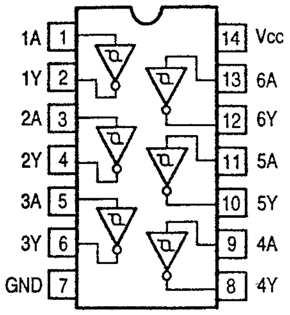

Vcc**
1
IN+
2
IN–
3
VEE*
4
+
–
8
VDD***
7
OUT
6
GND
5
LATCH

* ANALOG V–
AND SUBSTRATE
** ANALOG V+
*** ANALOG V+

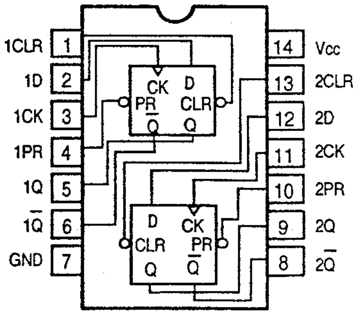
HD74HC14FP (DS: IC021)
HD74HC74FP (DS: IC016)
TC74HC00AF (DS: IC019)
TC74HCU04AF (DS: IC304, 309, 314)



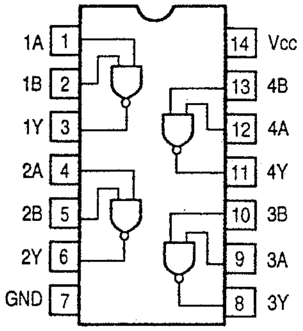
HD74HC14FP


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

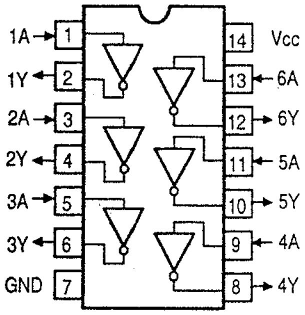
HD74HC74FP


1CLR 1
1D 2
1CK 3
1PR 4
1Q 5
1$\overline{Q}$ 6
GND 7
14 Vcc
13 2CLR
12 2D
11 2CK
10 2PR
9 2Q
8 2$\overline{Q}$
CK D
PR CLR
$\overline{Q}$ Q
D CK
CLR PR
Q $\overline{Q}$

TC74HC00AF

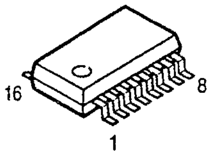

1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 Vcc
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

TC74HCU04AF

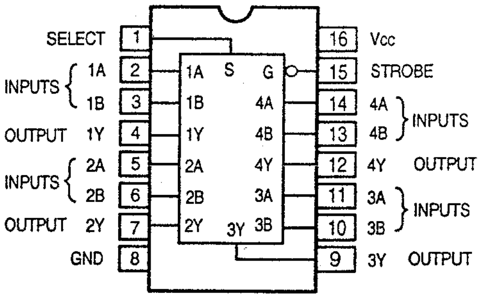

1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

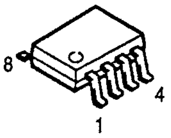
BA4510F (DS: IC103, 104)
BA10393F (DS: IC105)
BA15218F (DS: IC302, 305)
(AU: 104~109)
NJM5532MD (AU: IC102, 103, 114, 601~604)
(Pr: IC603, 606)
NJM2068MD (Pr: IC602, 605)
(DS: IC154~156, 201~207, 507~509)
(AU: IC101, 113, 501, 502, 505~508)

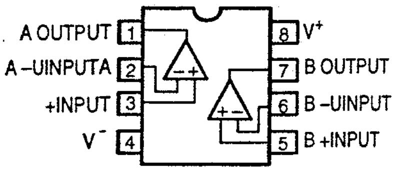
HD74HC157FP (DS: IC017)
TC74HC123AF (DS: IC020)
TC74HC151AF (DS: IC315)



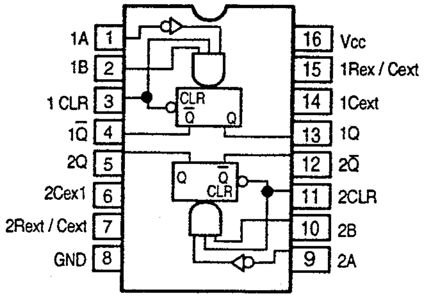
HD74HC157FP


SELECT 1
INPUTS 1A 2
1B 3
OUTPUT 1Y 4
INPUTS 2A 5
2B 6
OUTPUT 2Y 7
GND 8
16 Vcc
15 STROBE
14 4A
13 4B INPUTS
12 4Y OUTPUT
11 3A
10 3B INPUTS
9 3Y OUTPUT
1A S G
1B 4A
1Y 4B
2A 4Y
2B 3A
2Y 3Y 3B

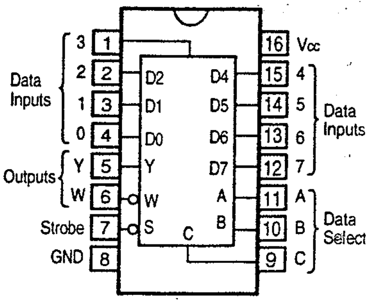



A OUTPUT 1
A -UINPUTA 2
+INPUT 3
V⁻ 4
8 V⁺
7 B OUTPUT
6 B -UINPUT
5 B +INPUT

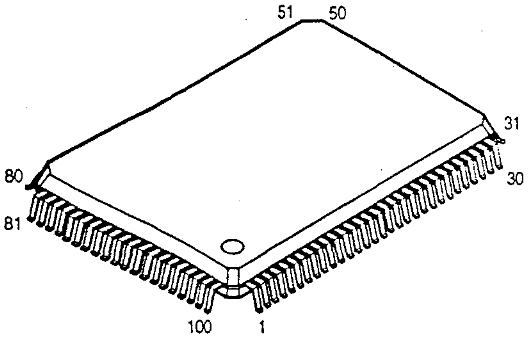
TC74HC123AF

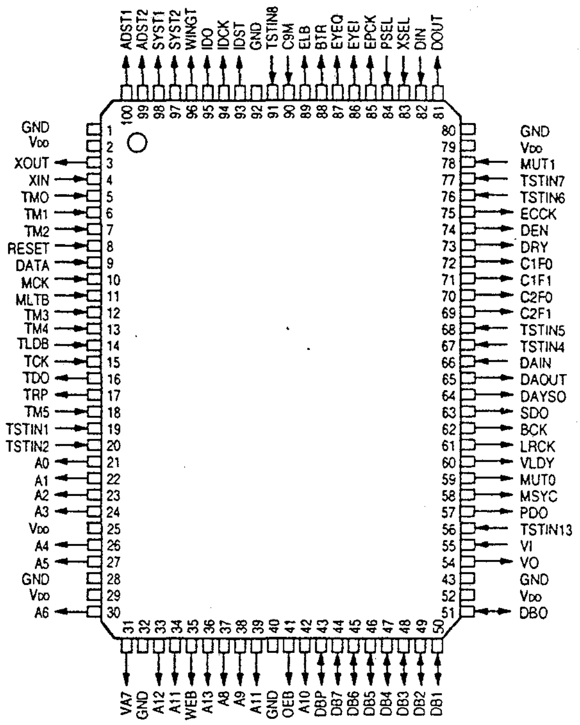

1A 1
1B 2
1 CLR 3
1$\overline{Q}$ 4
2Q 5
2Cex1 6
2Rext / Cext 7
GND 8
16 Vcc
15 1Rex / Cext
14 1Cext
13 1Q
12 2$\overline{Q}$
11 2CLR
10 2B
9 2A
CLR
$\overline{Q}$ Q
Q $\overline{Q}$
CLR

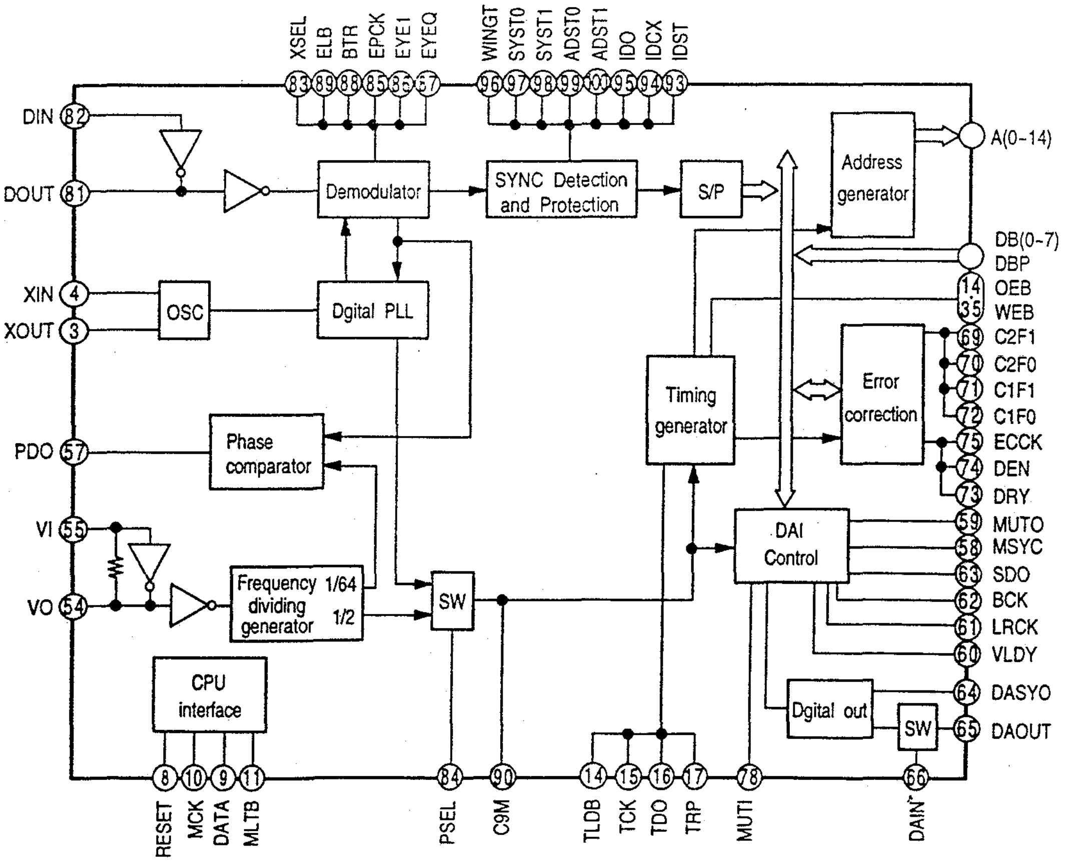
TC74HC151AF


Data Inputs
3 1
2 2
1 3
0 4
Outputs
Y 5
W 6
Strobe 7
GND 8
16 Vcc
15 4
14 5
13 6
12 7
Data Inputs
11 A
10 B
9 C
Data Select
D2 D4
D1 D5
D0 D6
Y D7
W A
S C B

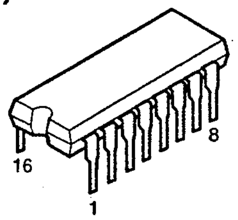
PD4606A
(DS: IC306)

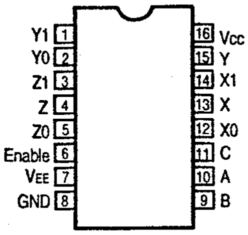

51
50
31
30
80
81
100
1


ADST1
ADST2
SYST1
SYST2
WINGT
IDO
IDCK
IDST
GND
TSTIN8
C9M
ELB
BTR
EYEQ
EYEI
EPCK
PSEL
XSEL
DIN
DOUT
100
99
98
97
96
95
94
93
92
91
90
89
88
87
86
85
84
83
82
81
GND 1
VDD 2
XOUT 3
XIN 4
TMO 5
TM1 6
TM2 7
RESET 8
DATA 9
MCK 10
MLTB 11
TM3 12
TM4 13
TLDB 14
TCK 15
TDO 16
TRP 17
TM5 18
TSTIN1 19
TSTIN2 20
A0 21
A1 22
A2 23
A3 24
VDD 25
A4 26
A5 27
GND 28
VDD 29
A6 30
80 GND
79 VDD
78 MUT1
77 TSTIN7
76 TSTIN6
75 ECCK
74 DEN
73 DRY
72 C1F0
71 C1F1
70 C2F0
69 C2F1
68 TSTIN5
67 TSTIN4
66 DAIN
65 DAOUT
64 DAYSO
63 SDO
62 BCK
61 LRCK
60 VLDY
59 MUT0
58 MSYC
57 PDO
56 TSTIN13
55 VI
54 VO
43 GND
52 VDD
51 DB0
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
VA7
GND
A12
A11
WEB
A13
A8
A9
A11
GND
OEB
A10
DBP
DB7
DB6
DB5
DB4
DB3
DB2
DB1


XSEL
ELB
BTR
EPCK
EYE1
EYEQ
83
89
88
85
86
87
WINGT
SYST0
SYST1
ADST0
ADST1
IDO
IDCX
IDST
96
97
98
99
100
95
94
93
DIN 82
DOUT 81
XIN 4
XOUT 3
PDO 57
VI 55
VO 54
Demodulator
SYNC Detection and Protection
S/P
Address generator
A(0-14)
DB(0-7)
DBP
14 OEB
35 WEB
69 C2F1
70 C2F0
71 C1F1
72 C1F0
75 ECCK
74 DEN
73 DRY
59 MUTO
58 MSYC
63 SDO
62 BCK
61 LRCK
60 VLDY
64 DASYO
65 DAOUT
OSC
Dgital PLL
Phase comparator
Frequency dividing generator
1/64
1/2
SW
Timing generator
Error correction
DAI Control
Dgital out
SW
CPU interface
8
10
9
11
RESET
MCK
DATA
MLTB
84
PSEL
90
C9M
14
15
16
17
TLDB
TCK
TDO
TRP
78
MUTI
66
DAIN

MC74HC4053N
(VI: IC413)

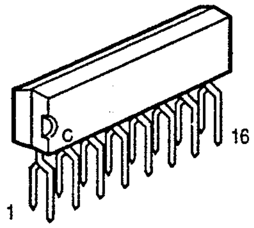


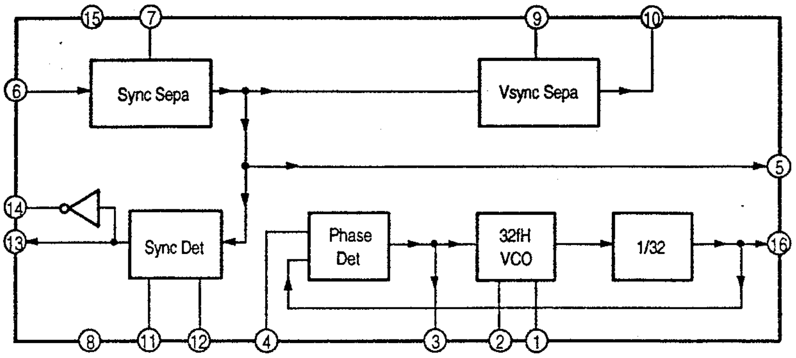

Y1 1
Y0 2
Z1 3
Z 4
Z0 5
Enable 6
VEE 7
GND 8
16 Vcc
15 Y
14 X1
13 X
12 X0
11 C
10 A
9 B

Control Inputs				ON Switches		
	Select					
Enable	C	B	A			
L	L	L	L	Z0	Y0	X0
L	L	L	H	Z0	Y0	X1
L	L	H	L	Z0	Y1	X0
L	L	H	H	Z0	Y1	X1
L	H	L	L	Z1	Y0	X0
L	H	L	H	Z1	Y0	X1
L	H	H	L	Z1	Y1	X0
L	H	H	H	Z1	Y1	X1
H	X	X	X	None		

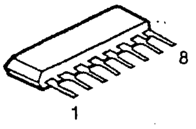
X = Don't Care

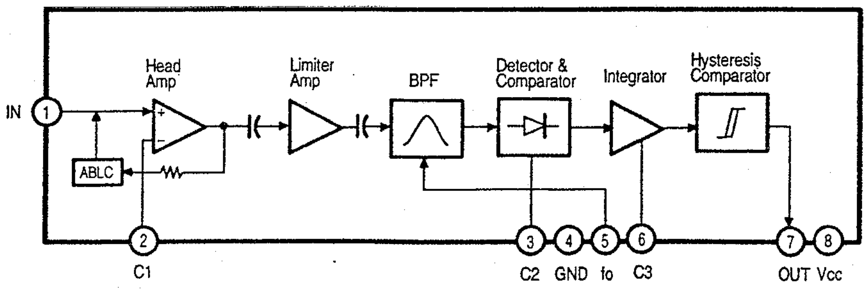
NJM2229S (VI: IC415)




15
7
9
10
6
Sync Sepa
Vsync Sepa
5
14
13
Sync Det
Phase Det
32fH VCO
1/32
16
8
11
12
4
3
2
1

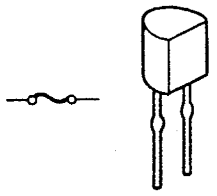
CX20106A
(DS: IC317)




IN
1
Head Amp
+
−
ABLC
Limiter Amp
BPF
Detector & Comparator
Integrator
Hysteresis Comparator
2
C1
3
4
5
6
C2
GND
fo
C3
7
8
OUT
Vcc

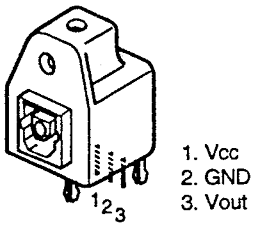
● IC PROTECTOR

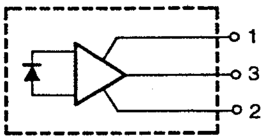
ICP-N15 (AU: IC307) (PS: IC401)



● OPTICAL

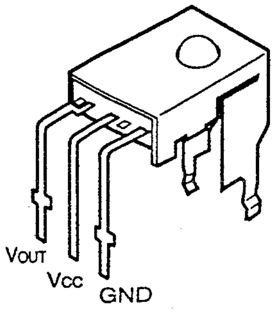
INPUT
GP1F32R
(DS: IC310)

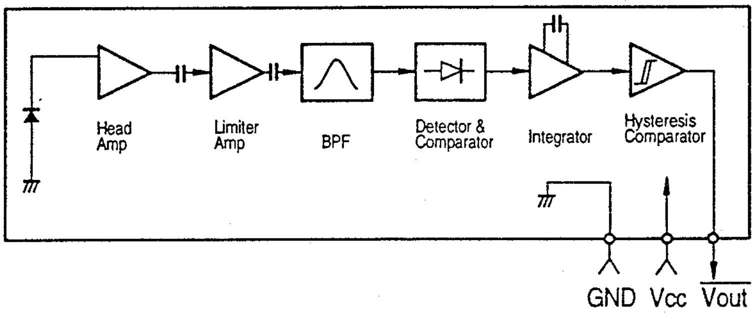

1
2
3
1. Vcc
2. GND
3. Vout



● OTHER

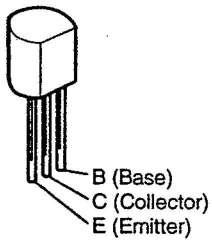
GP1U271X (Remote Control Sensor)
(Pr: IC461)


VOUT
Vcc
GND

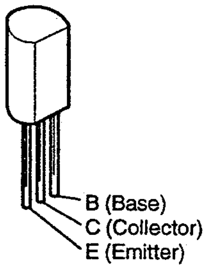

Head Amp
Limiter Amp
BPF
Detector & Comparator
Integrator
Hysteresis Comparator
GND
Vcc
Vout

● TRANSISTORS

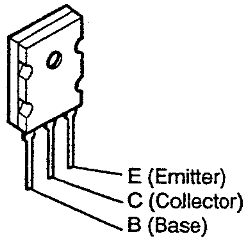
2SA970 (BL)
2SA988 (E/F)
2SC1815 (Y), (BL)
2SC2878 (A/B)


B (Base)
C (Collector)
E (Emitter)

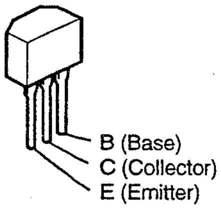
2SA1145 (O)/(Y)
2SB1041 (R)
2SC2705 (O)/(Y)
2SD1292 (R)


B (Base)
C (Collector)
E (Emitter)

2SB1317 (s)
2SD1975 (s)

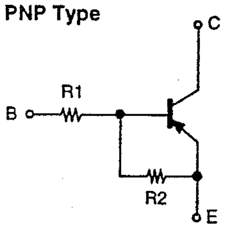

E (Emitter)
C (Collector)
B (Base)

DTA114ES
DTC143ES
DTC144ES


B (Base)
C (Collector)
E (Emitter)

DTA114ES

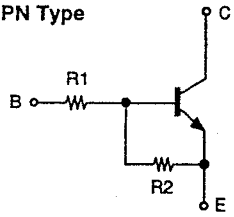
PNP Type



	R1	R2
DTA114ES	10kohm	10kohm

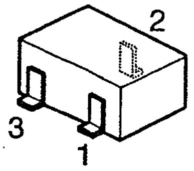
DTC143ES
DTC144ES

NPN Type



	R1	R2
DTC143ES	4.7kohm	4.7kohm
DTC144ES	47kohm	47kohm

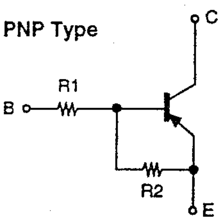
DTA114EK
DTA124EK
DTA143EK
DTA144EK
DTC114EK
DTC144EK



1: GND/Emitter
2: Out/Collector
3: In/Base

DTA114EK
DTA124EK
DTA143EK
DTA144EK

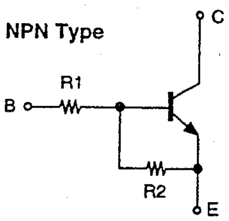
PNP Type



	R1	R2
DTA114EK	10kohm	10kohm
DTA124EK	22kohm	22kohm
DTA143EK	4.7kohm	4.7kohm
DTA144EK	47kohm	47kohm

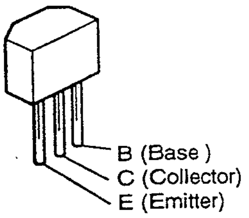
DTC114EK
DTC144EK

NPN Type

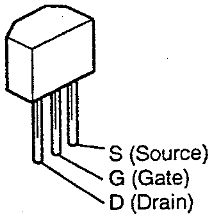


	R1	R2
DTC114EK	10kohm	10kohm
DTC144EK	47kohm	47kohm

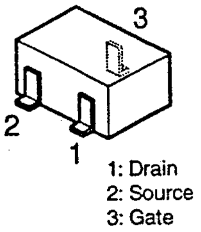
2SA933S (S)
2SC1740S (E)


B (Base)
C (Collector)
E (Emitter)

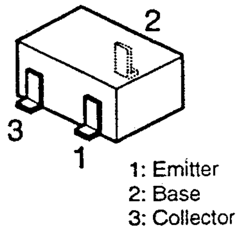
2SK184 (GR)/(BL)


S (Source)
G (Gate)
D (Drain)

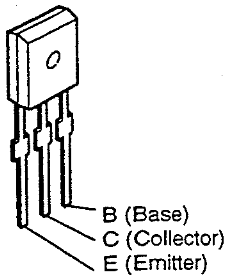
2SK209 (GR)


3
2
1
1: Drain
2: Source
3: Gate

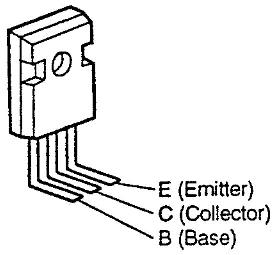
2SA1037K (S/R)
2SC2412K (S)


2
3
1
1: Emitter
2: Base
3: Collector

2SB1328 (P/Q)
2SD2004 (P/Q)

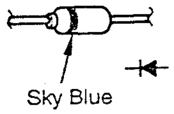

B (Base)
C (Collector)
E (Emitter)

2SA1633F31

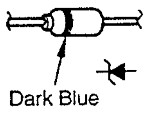

E (Emitter)
C (Collector)
B (Base)

● DIODES (included LED)

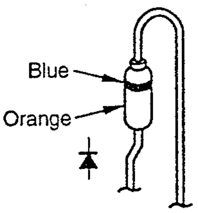
1SS270A
1S2076A



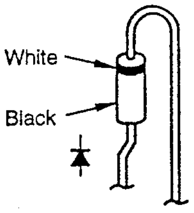
MTZJ3.3A MTZJ36A
MTZJ6.2A HZS5A-1
MTZJ7.5A HZS7C-1
MTZJ9.1A HZS12A-1



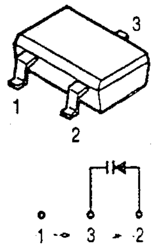
1SR35-200A


Blue
Orange

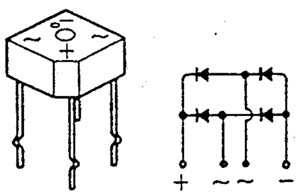
DSM1D2 (Type 3)


White
Black

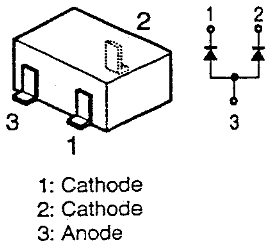
KV1851-TL
(DS: CD301)



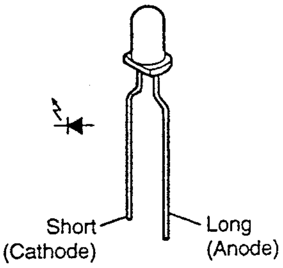
4D4B42(LC1)
(PS: D901)



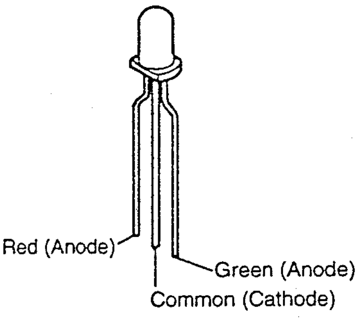
MA151A
(DS: D001~003)


2
3
1
1
2
3
1: Cathode
2: Cathode
3: Anode

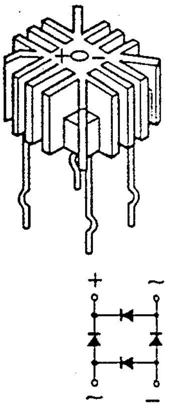
SEL1210S (Red)
(VI: LD101~108,111)
SEL4214S
(Pr: LD461)


Short
(Cathode)
Long
(Anode)

SML1216W
(VI: LD109, 110)

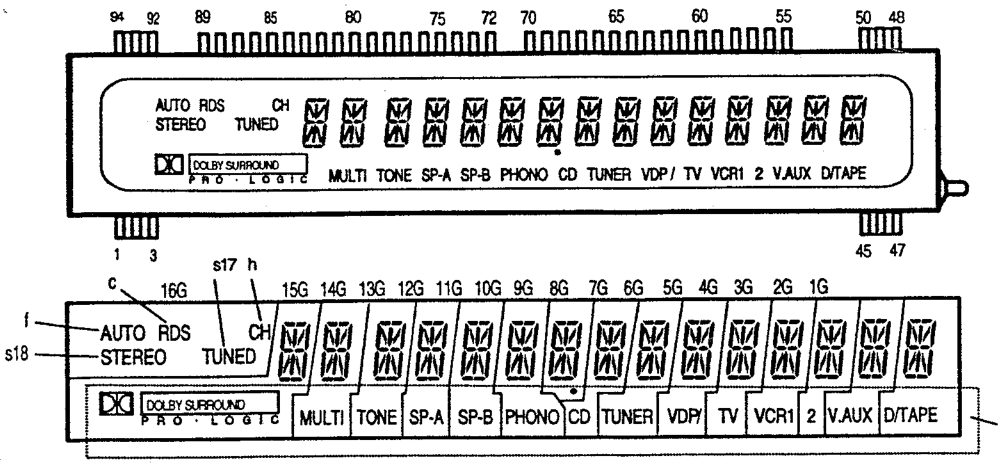

Red (Anode)
Green (Anode)
Common (Cathode)

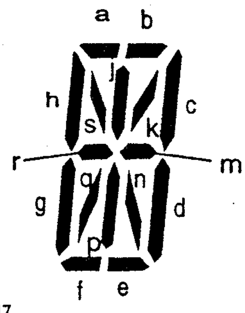
S10VB20F9 (D450)



● DISPLAY

FL DISPLAY FIP16FM7R (Part No.: 3934156001) (VI: FL101)


94
92
89
85
80
75
72
70
65
60
55
50
48
AUTO RDS
STEREO TUNED
CH
DOLBY SURROUND PRO · LOGIC
MULTI TONE SP-A SP-B PHONO CD TUNER VDP/ TV VCR1 2 V.AUX D/TAPE
1
3
45
47
c
16G
s17
h
15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
f
s18
S17


a
b
j
h
c
s
k
r
m
g
q
n
d
p
f
e

(UPPER)

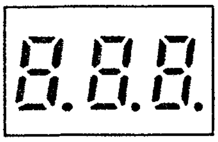
TERMINAL No.	94	93	92	91	90	89	88	87	86	85	84	83	82	81						
ELECTRODE	F1	F1	F1	NP	NP	P a	P b	P c	P j	P k	P s	P h	P r	P m						
TERMINAL No.	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61
ELECTRODE	P d	P n	P q	P p	P g	P f	P e	P s17	P s18	NP	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G
TERMINAL No.								60	59	58	57	56	55	54	53	52	51	50	49	48
ELECTRODE								6G	5G	4G	3G	2G	1G	NP	NP	NP	NP	F2	F2	F2

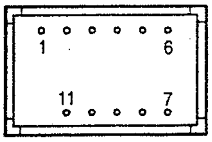
(LOWER)

TERMINAL No.								35	36	37	38	39	40	41	42	43	44	45	46	47
ELECTRODE								NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	F2	F2	F2
TERMINAL No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ELECTRODE	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
TERMINAL No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
ELECTRODE	F1	F1	F1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP						

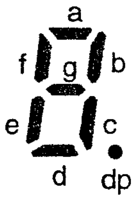
Notes: F: Filament G: Grid A: Anode NP: No Pin

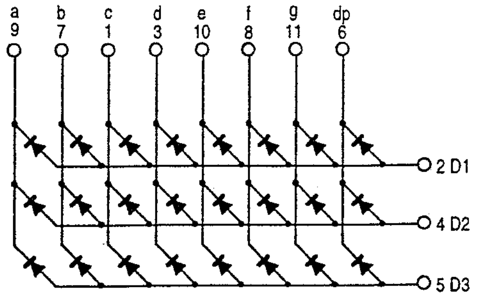
LB-303VA
(VI: LD114)





(BOTTOM VIEW)



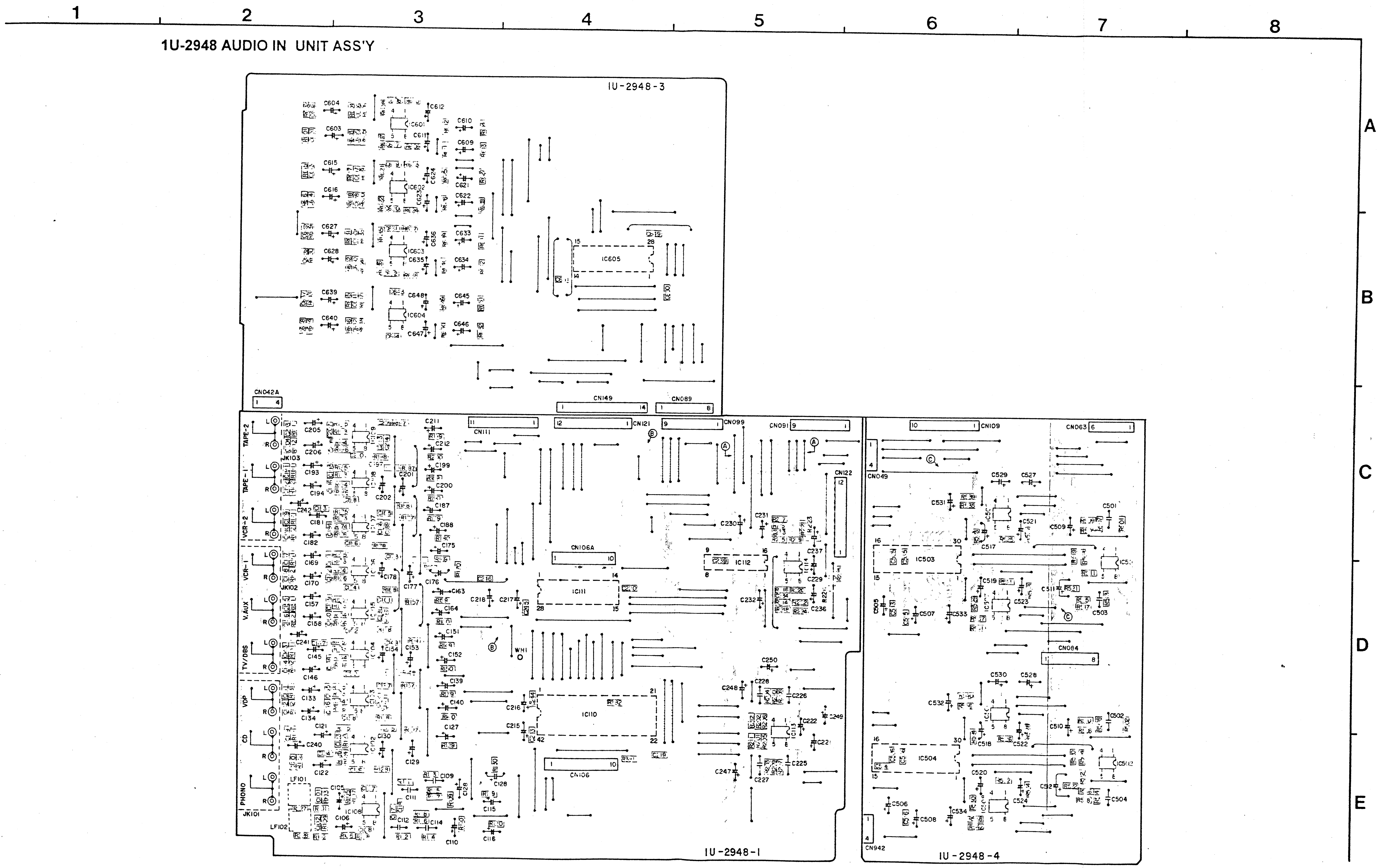

a 9
b 7
c 1
d 3
e 10
f 8
g 11
dp 6
2 D1
4 D2
5 D3

Pin connection

Pin No.	Function
1	c Segment cathode
2	Digit 1 common anode
3	d Segment cathode
4	Digit 2 common anode
5	Digit 3 common anode
6	D.P cathode
7	b Segment cathode
8	f Segment cathode
9	a Segment cathode
10	e Segment cathode
11	g Segment cathode

PRINTED WIRING BOARD

1U-2948 AUDIO IN UNIT ASS'Y


1
2
3
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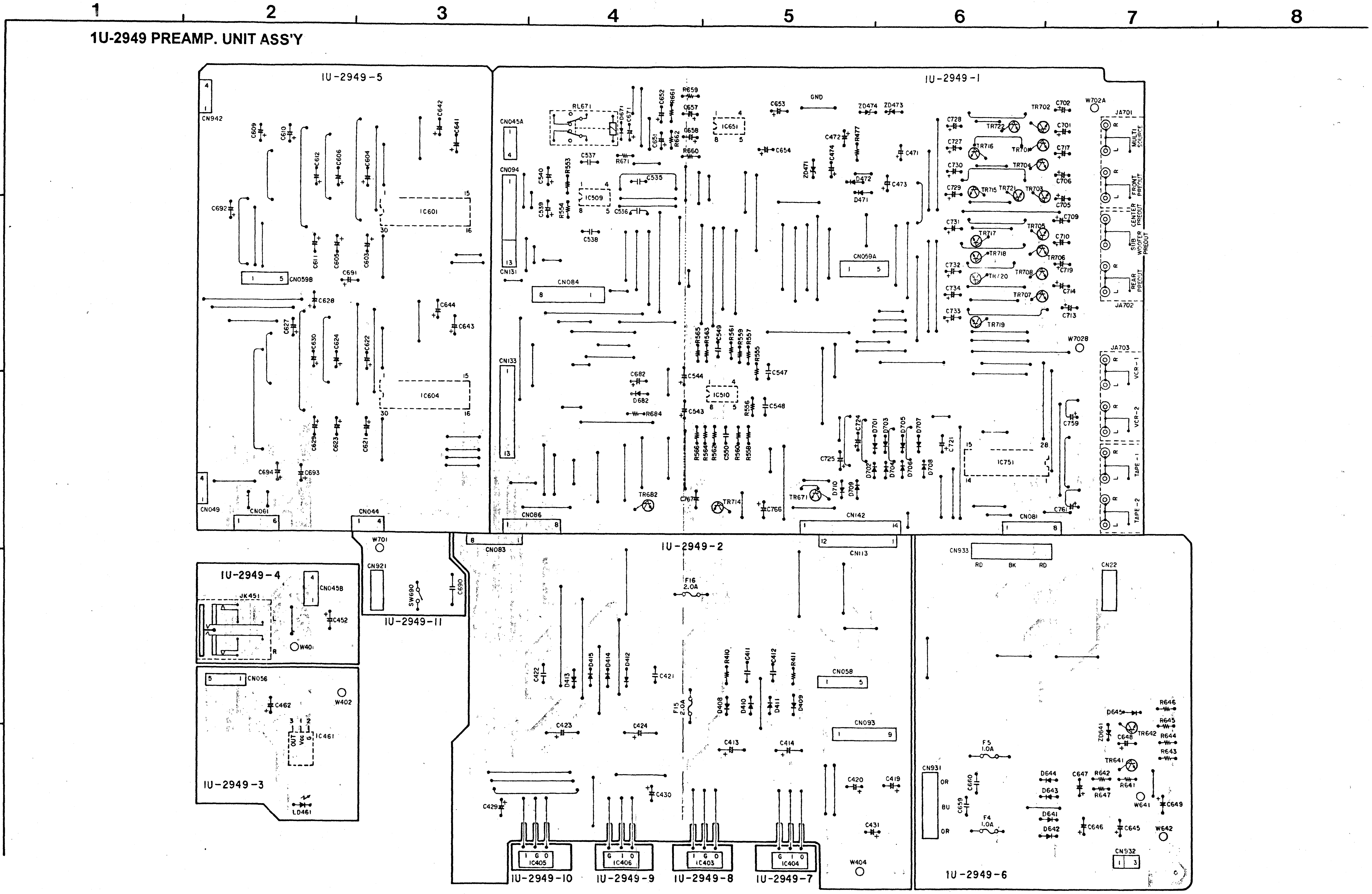
7
8
A
B
C
D
E
IU-2948-3
IC601
IC602
IC603
IC604
IC605
C604
C603
C615
C616
C627
C628
C639
C640
C612
C610
C609
C611
C621
C622
C624
C623
C633
C634
C636
C635
C645
C646
C648
C647
CN042A
CN149
CN089
IU-2948-1
CN111
CN121
CN099
CN091
CN122
CN106A
CN106
IC110
IC111
IC112
IC113
WH1
TAPE-2
TAPE-1
VCR-2
VCR-1
V.AUX
TV/DBS
VDP
CD
PHONO
JK101
JK102
JK103
LF101
LF102
L
R
C205
C206
C193
C194
C242
C181
C182
C169
C170
C157
C158
C241
C145
C146
C133
C134
C121
C240
C122
C211
C212
C199
C200
C187
C188
C175
C176
C163
C164
C151
C152
C139
C140
C127
C129
C130
C109
C110
C111
C112
C114
C115
C116
C128
C216
C217
C215
C230
C231
C232
C236
C237
C229
C250
C248
C228
C226
C222
C249
C221
C225
C227
C247
IU-2948-4
CN109
CN063
CN049
CN084
CN942
IC503
IC504
C501
C502
C503
C504
C505
C506
C507
C508
C509
C510
C511
C517
C518
C519
C520
C521
C522
C523
C524
C527
C528
C529
C530
C531
C532
C533
C534

1U-2949 PREAMP. UNIT ASS'Y


1
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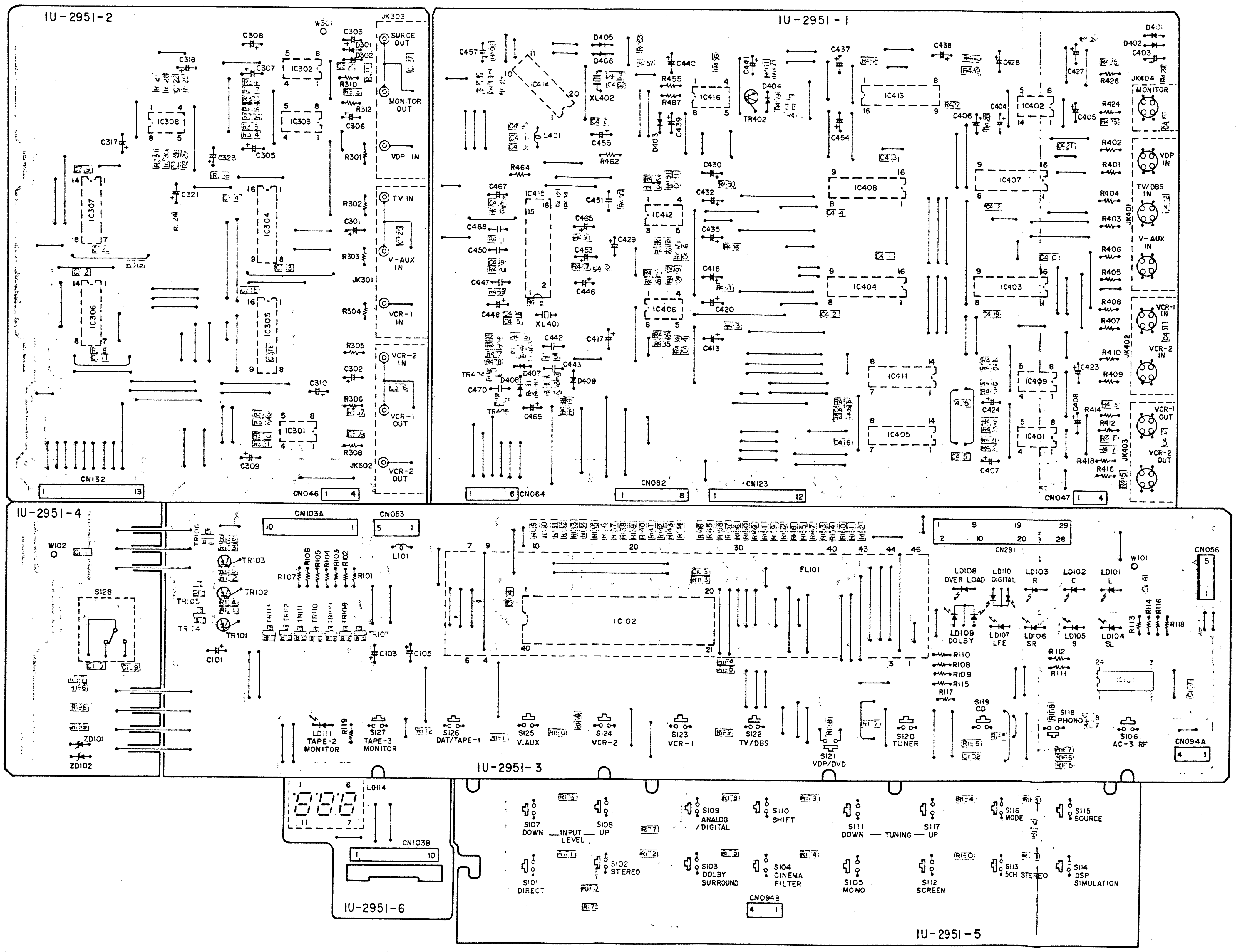
7
8
A
B
C
D
E
1U-2949-5
1U-2949-1
1U-2949-2
1U-2949-3
1U-2949-4
1U-2949-6
1U-2949-7
1U-2949-8
1U-2949-9
1U-2949-10
1U-2949-11
CN942
CN049
CN061
CN044
CN059B
IC601
IC604
CN045A
CN094
CN131
CN133
CN084
CN086
CN083
CN142
CN081
CN059A
CN113
CN933
CN22
CN058
CN093
CN931
CN932
CN921
CN045B
CN056
RL671
IC509
IC510
IC651
IC751
IC461
IC405
IC406
IC403
IC404
JA701
JA702
JA703
JK451
MULTI SOURCE
FRONT PREOUT
CENTER PREOUT
SUB WOOFER PREOUT
REAR PREOUT
VCR-1
VCR-2
TAPE-1
TAPE-2
GND
W701
W702A
W702B
W401
W402
W404
W641
W642
SW690
F16 2.0A
F15 2.0A
F5 1.0A
F4 1.0A
LD461
TR682
TR714
TR671
TR641
TR642
I G O
G I O
OR
BU
RD
BK

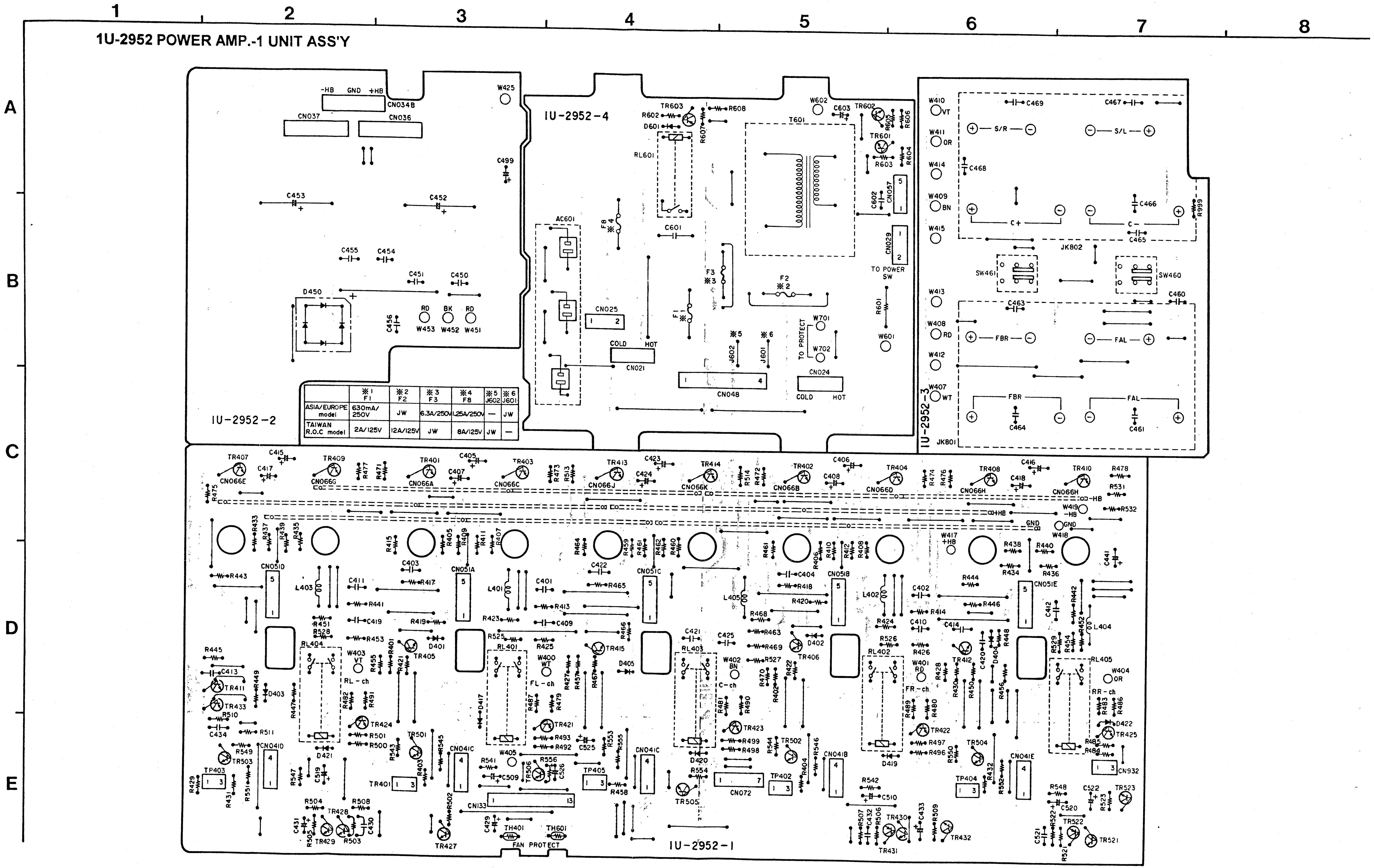
1 2 3 4 5 6 7 8

1U-2951 S-VIDEO UNIT ASS'Y


IU-2951-2
IU-2951-1
IU-2951-4
IU-2951-3
IU-2951-5
IU-2951-6
JK303
SURCE OUT
MONITOR OUT
VDP IN
TV IN
V-AUX IN
JK301
VCR-1 IN
VCR-2 IN
VCR-1 OUT
VCR-2 OUT
JK302
JK404
MONITOR
VDP IN
TV/DBS IN
V-AUX IN
JK401
VCR-1 IN
VCR-2 IN
JK402
VCR-1 OUT
VCR-2 OUT
JK403
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC401
IC402
IC403
IC404
IC405
IC406
IC407
IC408
IC409
IC411
IC412
IC413
IC414
IC415
IC416
IC102
FL101
TR402
XL401
XL402
L401
L101
CN132
CN046
CN064
CN082
CN123
CN047
CN103A
CN053
CN291
CN056
CN094A
CN094B
CN103B
LD114
S128
W101
W102
W301
LD108 OVER LOAD
LD110 DIGITAL
LD103 R
LD102 C
LD101 L
LD109 DOLBY
LD107 LFE
LD106 SR
LD105 S
LD104 SL
LD111 TAPE-2 MONITOR
S127 TAPE-3 MONITOR
S126 DAT/TAPE-1
S125 V.AUX
S124 VCR-2
S123 VCR-1
S122 TV/DBS
S121 VDP/DVD
S120 TUNER
S119 CD
S118 PHONO
S106 AC-3 RF
S107 DOWN
INPUT LEVEL
S108 UP
S109 ANALOG /DIGITAL
S110 SHIFT
S111 DOWN
TUNING
S117 UP
S116 MODE
S115 SOURCE
S101 DIRECT
S102 STEREO
S103 DOLBY SURROUND
S104 CINEMA FILTER
S105 MONO
S112 SCREEN
S113 5CH STEREO
S114 DSP SIMULATION
ZD101
ZD102
TR101
TR102
TR103
TR106

A
B
C
D
E

1U-2952 POWER AMP.-1 UNIT ASS'Y


1
2
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4
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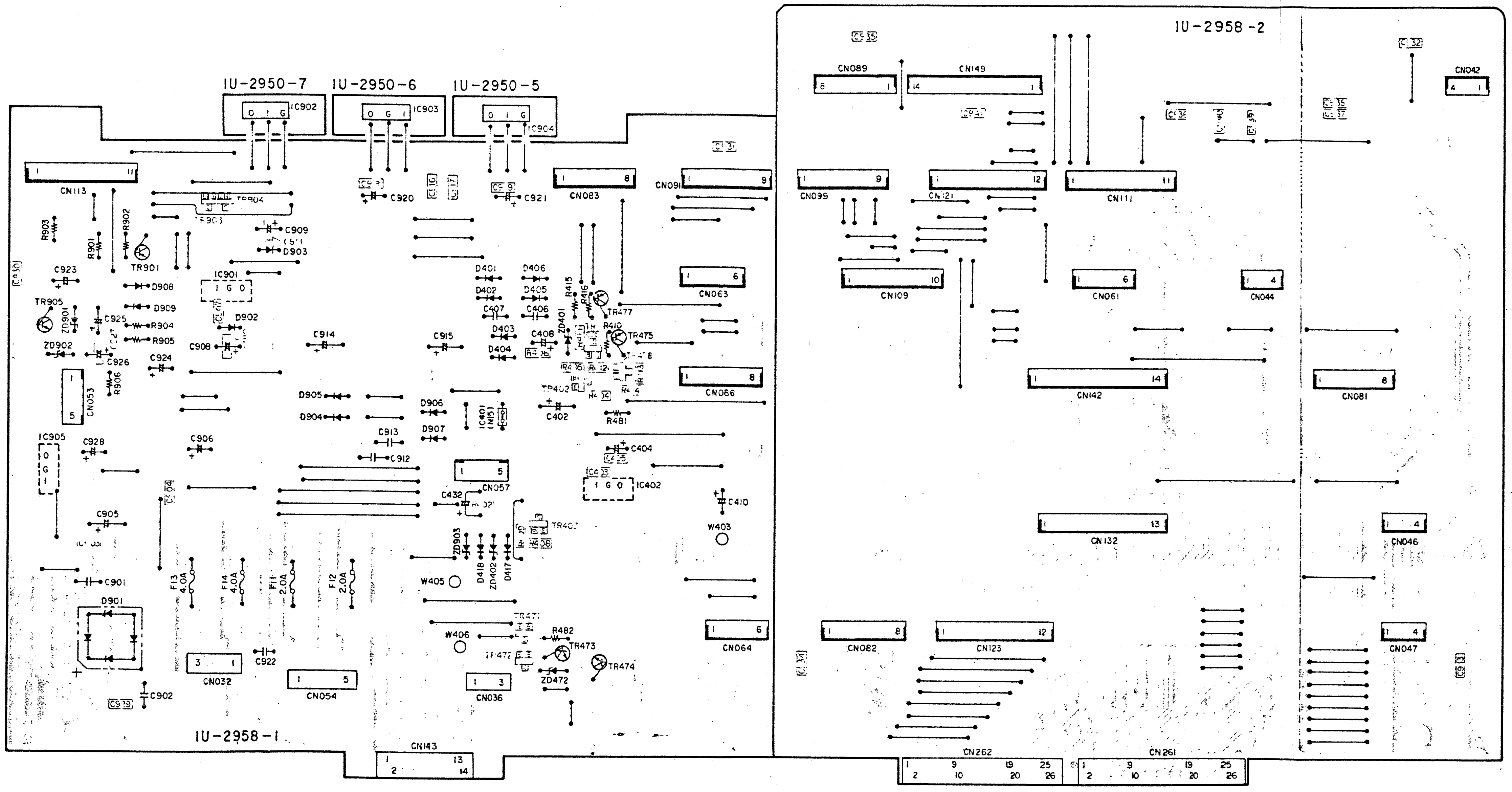
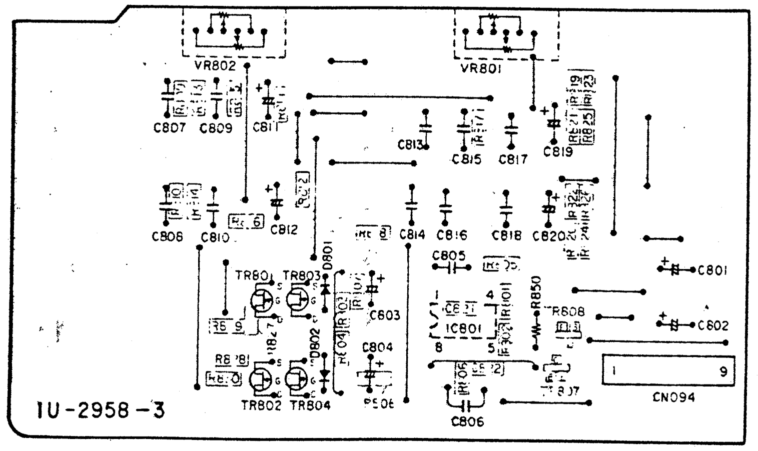
7
8
A
B
C
D
E
1U-2952-2
1U-2952-4
1U-2952-3
1U-2952-1
-HB GND +HB
CN034B
CN037
CN036
W425
C499
C453
C452
C455
C454
C451
C450
D450
C456
RD BK RD
W453 W452 W451
TR603
R602
D601
R607
R608
W602
C603
TR602
R605
R606
TR601
R604
R603
T601
RL601
AC601
F8 ※4
C601
C602
CN057
CN029
TO POWER SW
F3 ※3
F2 ※2
F1 ※1
CN025
COLD HOT
CN021
※5 ※6
J602 J601
TO PROTECT
W701
W702
R601
W601
CN024
COLD HOT
CN048
W410 VT
W411 OR
W414
W409 BN
W415
W413
W408 RD
W412
W407 WT
C469
C467
S/R
S/L
C468
C466
C+
C-
C465
R999
JK802
SW461
SW460
C463
C460
FBR
FAL
C464
C461
JK801
TR407
C415
C417
CN066E
R475
TR409
CN066G
R477
R471
TR401
C405
C407
CN066A
TR403
CN066C
R473
R513
TR413
CN066J
C423
C424
TR414
CN066K
R514
R472
TR402
CN066B
C406
C408
TR404
CN066D
R474
R476
TR408
CN066H
C416
C418
TR410
CN066H
R478
R531
-HB
W419 -HB
R532
+HB
GND
W418
W417 +HB
R433
R437
R439
R435
R415
R405
R409
R411
R407
R464
R459
R461
R462
R460
R461
R406
R410
R412
R408
R438
R440
R434
R436
C441
R443
CN051D
L403
C411
C403
CN051A
L401
C401
C422
CN051C
C404
CN051B
L402
C402
R444
CN051E
R417
R465
R418
R420
R414
R446
R441
R413
L405
R468
C412
R442
L404
R451
R528
C419
R419
R423
C409
R466
R463
R424
C410
C414
R452
R453
R401
D401
R525
R425
TR415
C421
C425
D402
R526
R426
TR412
C420
D404
R448
R529
R454
R445
RL404
W403 VT
R455
R421
TR405
RL401
W400 WT
D405
RL403
W402 BN
R469
R527
TR406
RL402
W401 RD
R428
R430
R450
R456
RL405
W404 OR
C413
R449
TR411
D403
TR433
R510
R447
RL-ch
R482
R491
D417
FL-ch
R487
R479
R427
R457
R467
C-ch
R470
R422
R402
R481
R490
FR-ch
R489
R480
RR-ch
R483
R486
C434
R511
TR424
R501
R500
TR421
R493
R492
TR423
R499
R498
TR422
R497
R496
D422
TR425
R485
R484
R549
TR503
D421
TR501
R543
R545
C525
R553
R555
TR502
R544
R546
TR504
R550
D419
CN041D
CN041C
CN041C
CN041B
CN041E
CN932
TP403
R429
R431
R551
R547
C519
R403
W405
R541
C509
TR506
R556
C526
TP405
R458
D420
R554
TR505
CN072
TP402
R404
R542
C510
TP404
R432
R552
R548
C522
TR523
R523
C520
TR401
CN133
R502
R504
R508
TR428
C431
R505
TR429
R503
C430
TR427
C429
TH401
TH601
FAN PROTECT
R507
C432
R506
TR430
TR431
C433
R509
TR432
C521
R522
R521
TR522
TR521

	※1 F1	※2 F2	※3 F3	※4 F8	※5 J602	※6 J601
ASIA/EUROPE model	630mA/250V	JW	6.3A/250V	1.25A/250V	—	JW
TAIWAN R.O.C model	2A/125V	12A/125V	JW	8A/125V	JW	—

1U-2958 POWER SUPPLY-3 UNIT ASS'Y




1
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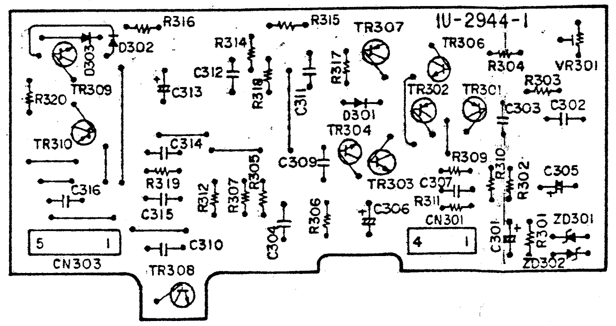
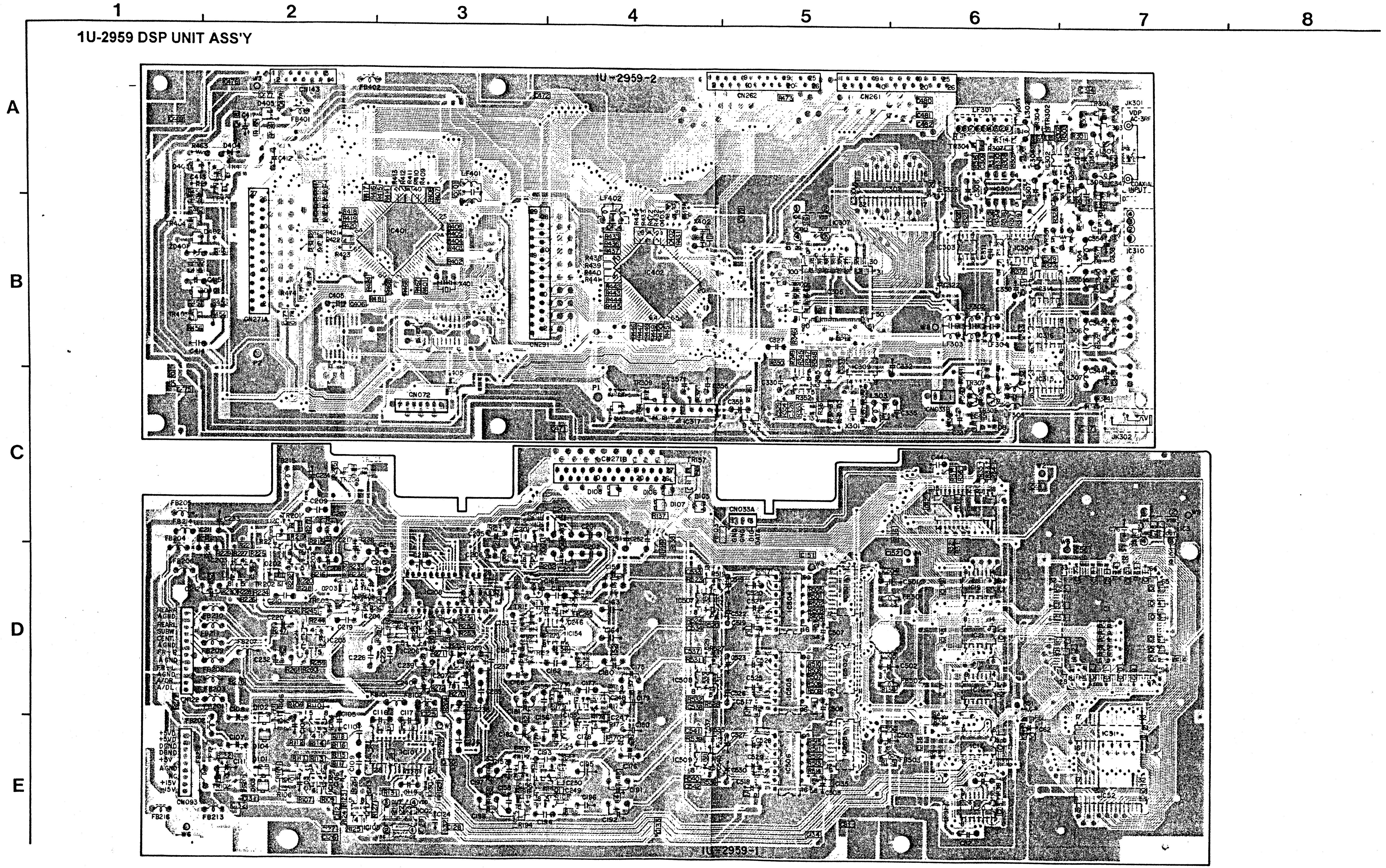
A
B
C
D
E
1U-2950-7
1U-2950-6
1U-2950-5
IC902
IC903
IC904
1U-2958-2
1U-2958-1
1U-2958-3
CN113
CN083
CN091
CN089
CN149
CN042
CN095
CN121
CN111
CN063
CN109
CN061
CN044
CN053
CN066
CN142
CN081
CN057
CN132
CN046
CN064
CN082
CN123
CN047
CN032
CN054
CN036
CN143
CN262
CN261
CN094
IC901
IC905
IC401
IC402
IC801
TR901
TR905
TR477
TR475
TR473
TR474
TR802
TR804
VR802
VR801
F13 4.0A
F14 4.0A
F11 2.0A
F12 2.0A
D901
W403
W405
W406

1U-2944 POWER AMP.-2 UNIT ASS'Y


1U-2944-1
CN303
CN301
TR307
TR306
TR309
TR310
TR302
TR301
TR304
TR303
TR308
VR301
ZD301
ZD302
D301
D302
D303

1U-2959 DSP UNIT ASS'Y


1
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8
A
B
C
D
E
1U-2959-2
1U-2959-1
CN262
CN261
CN271A
CN271B
CN291
CN072
CN033A
CN093
IC401
IC402
IC310
X301
X401
JK301
VDP
AC-3RF
COAXIAL
INPUT
JK302
LF301
LF401
LF402
FB401
FB402
FB213
FB216
+5VD
+5VD
DGND
DGND
+5V
AGND
NC
+15V
-15V
REAR R
A GND
REAR L
SUB W
CENT
A GND
FR
A GND
FL
A GND
A/DR
A/DL

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

Resistors

Ex.:	RN	14K	2E	182	G	FR
	Type	Shape and performance	Power	Resistance	Allowable error	Others

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.

- Units: ohm

1 R 2 ⇒ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: ohm

Capacitors

Ex.:	CE	04W	1H	2R2	M	BP
	Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For change and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
Indicates number of zeros after effective number.
2-digit effective number.

- Units: μF.

2 R 2 ⇒ 2.2μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.

- Units: μF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022μF
(More than 2)—Indicates number of zeros after effective number.
2-digit effective number.

- Units: pF.

2 2 1 ⇒ 220pF
(0 or 1)—Indicates number of zeros after effective number.
2-digit effective number.

- Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP			
C411,412	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C413,414	254 4259 700	Electrolytic 2200 µF/35V	CE04W1V222MC
C415~418	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C419,420	254 4258 947	Electrolytic 47 µF/35V	CE04W1V470M
C421,422	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C423,424	254 4259 700	Electrolytic 2200 µF/35V	CE04W1V222MC
C425~428	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C429,430	254 4258 947	Electrolytic 47 µF/35V	CE04W1V470M
C431	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C451	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C452	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C453	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C461	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z
C462	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C478	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C479,480	257 0007 900	Ceramic chip1000 pF/50V	CC73SL1H102J
C535~538	255 4201 968	Mylar film 470 pF/50V	CQ93P1H471J
C539,540	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C601,602	257 0012 982	Ceramic chip 0.022 µF/50V	CK73F1H223Z
C603~606	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C608	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C609,610	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C611,612	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C613~616	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J
C619,620	257 0012 982	Ceramic chip 0.022 µF/50V	CK73F1H223Z
C621~624	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C626	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C627,628	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C629,630	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C631~634	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C637~640	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C641~644	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C645,646	254 4258 785	Electrolytic 470 µF/35V	CE04W1V471MC
C649	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C651,652	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C653,654	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C655,656	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C657,658	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C671	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C690	253 8014 702	Ceramic chip 0.01 µF/400V	CK45F2GAC103MC
C691~694	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C701,702	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C703,704	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C705,706	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C707,708	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C709,710	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C711,712	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J
C713,714	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M

Ref. No.	Part No.	Part Name	Remarks	
C715,716	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J	
C717	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C718	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C719	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C720	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C721	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C724,725	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C727~734	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M	
C751~758	257 0004 961	Ceramic chip100 pF/50V	CC73SL1H101J	
C759	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C760	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C761	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M	
C762	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C763,764	257 0012 982	Ceramic chip 0.022 µF/50V	CK73F1H223Z	
C766	254 4252 778	Electrolytic 1000 µF/10V	CE04W1A102MC	
C767	254 3056 917	Electrolytic 1 µF/50V	CE04D1H010MBP	
	253 1148 905	Ceramic 0.022 µF/50V	CK45F1H223Z	
OTHER PARTS GROUP				**Q'ty**
CN044	205 0885 082	4P connector socket (TUC-P)		1
CN045	205 0355 046	4P KR connector base (L)		1
CN049	205 1028 000	4P connector base (9176)		1
CN056	203 8207 077	5P KR-DA connector cord		1
CN058	205 0233 058	5P EH connector base		1
CN059	205 0985 034	5P connector socket (TKC-A)		1
CN059	205 0986 033	5P connector plug (TKC-A)		1
CN061	205 0942 019	6P connector socket (TUC-P)		1
CN081	205 0885 095	8P connector socket (TUC-P)		1
CN083	205 0885 095	8P connector socket (TUC-P)		1
CN084	205 0985 005	8P connector socket (TKC-A)		1
CN086	205 0885 095	8P connector socket (TUC-P)		1
CN093	205 0343 090	9P connector base (KR-PH)		1
CN094	205 0355 091	9P KR connector base (L)		1
CN113	205 0885 066	11P connector socket (TUC-P)		1
CN133	205 0480 034	13P KR connector base (L)		1
CN142	205 0885 011	14P connector socket (TUC-P)		1
CN921	205 0581 001	2P VH connector base		1
CN931	205 0087 039	3P wrapping terminal		1
CN932	203 5012 061	3P SAN-PH connector cord		1
CN933	205 0348 037	3P wrapping terminal		1
CN942	205 1028 000	4P connector base (9176)		1
F004,005	202 0040 909	Fuse clip		2
F015,016	202 0040 909	Fuse clip		2
F004,005	206 1015 029	Fuse 1A	Europe/Asia model	2
F004,005	206 1039 034	Fuse 1A	Taiwan model	2
F015,016	206 1015 061	Fuse 2A	Europe/Asia model	2
F015,016	206 1039 063	Fuse 2A	Taiwan model	2

Ref. No.	Part No.	Part Name	Remarks	Q'ty
JA701~704	204 8540 012	4P pin jack		4
JK451	204 8217 031	Head phone jack		1
RL671	214 0127 003	Relay (RY-12W)		1
SW690	212 1031 008	Power switch (TV-5)		1
W401	203 0526 031	1P contact Ass'y		1
	513 2585 003	Fuse label		2
	513 2585 032	Fuse label		2
	202 0040 909	Fuse clip		4
	513 2585 003	Fuse label		2
	513 2585 032	Fuse Label		2

1U-2951 S-VIDEO UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 2302 906	IC M66310FP-200C	
IC102	262 2035 008	IC MSC1937-03RS	
IC301~303	263 1018 003	IC MC14577CP	
IC304,305	262 1108 004	IC TC4051BP	
IC306,307	262 0276 005	IC HD14066BP	
IC308	263 1018 003	IC MC14577CP	
IC401,402	263 1018 003	IC MC14577CP	
IC403,404	262 1108 004	IC TC4051BP	
IC405	262 0276 005	IC HD14066BP	
IC406	263 1018 003	IC MC14577CP	
IC407,408	262 1108 004	IC TC4051BP	
IC409	263 1018 003	IC MC14577CP	
IC411	262 0276 005	IC HD14066BP	
IC412	263 1018 003	IC MC14577CP	
IC413	262 2067 005	IC MC74HC4053N	
IC414	262 2311 007	IC M35015-204SP	
IC415	263 0682 003	IC NJM2229S	
IC416	263 1018 003	IC MC14577CP	
TR101~103	272 0131 901	Transistor 2SB1041(R)	
TR104~107	269 0082 902	Transistor DTC114EK	
TR105~111	269 0082 902	Transistor DTC114EK	
TR112,113	269 0082 902	Transistor DTC114EK	
TR401	273 0384 900	Transistor 2SC2412K(S)	
TR402	273 0198 918	Transistor 2SC1815(BL)	
TR403	271 0238 908	Transistor 2SA1037K(S/R)	
TR404	273 0384 900	Transistor 2SC2412K(S)	
TR405	269 0082 902	Transistor DTC114EK	
D403~408	276 0432 903	Diode 1SS270A	
ZD101,102	276 0637 902	Zener diode MTZJ6.2A	6.2V
LD101~108	393 9434 906	LED SEL1210S	
LD109,110	393 9491 004	LED SML1216W	
LD111	393 9434 906	LED SEL1210S	
LD114	393 9549 008	LED LB-303VA	
RESISTORS GROUP (Not included carbon film ±5% 1/4W)			
R121~123	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R124~126	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R127,128	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R129~162	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R163,164	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R165~169	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R170	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R171	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B--301J

Ref. No.	Part No.	Part Name	Remarks
R172	247 0006 933	Carbon chip 360 ohm 1/10W	RM73B--361J
R173	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R174	247 0008 957	Carbon chip 3 kohm 1/10W	RM73B--302J
R175	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R176	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B--301J
R177	247 0006 933	Carbon chip 360 ohm 1/10W	RM73B--361J
R178	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R179	247 0008 957	Carbon chip 3 kohm 1/10W	RM73B--302J
R180	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R181	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B--301J
R182	247 0006 933	Carbon chip 360 ohm 1/10W	RM73B--361J
R183	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R184	247 0008 957	Carbon chip 3 kohm 1/10W	RM73B--302J
R185	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R186	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B--301J
R187	247 0006 933	Carbon chip 360 ohm 1/10W	RM73B--361J
R188	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R189	247 0008 957	Carbon chip 3 kohm 1/10W	RM73B--302J
R190	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R191	247 0006 917	Carbon chip 300 ohm 1/10W	RM73B--301J
R192	247 0006 933	Carbon chip 360 ohm 1/10W	RM73B--361J
R195	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R196,197	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R198,199	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R307	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R309	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R311	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R313	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R314	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R315	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R316	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R317	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R318	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R319	247 0010 958	Carbon chip 20 kohm 1/10W	RM73B--203J
R320	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R321	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R322	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R323,324	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R325	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R326	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R327	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R328	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R329	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R330	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R331	247 0006 991	Carbon chip 620 ohm 1/10W	RM73B--621J
R332	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R333	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R334	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R411	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R413	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J

Ref. No.	Part No.	Part Name	Remarks
R415	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R417	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R419	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R420	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R421	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R422	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R423	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R425	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R427	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R428	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R429	247 0002 966	Carbon chip 10 ohm 1/10W	RM73B--100J
R430	247 0008 915	Carbon chip 2 kohm 1/10W	RM73B--202J
R431	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R432	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R433	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R434	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R435	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R436	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R437	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R438	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R439	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R440	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R441,442	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R443	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R444	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R445,446	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R447	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R448	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R449	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R450	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R451	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R452	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R453	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R454	247 0010 958	Carbon chip 20 kohm 1/10W	RM73B--203J
R456	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R457	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R458,459	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R460	247 0009 930	Carbon chip 6.2 kohm 1/10W	RM73B--622J
R461	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R462	241 2387 908	Carbon film 1 ohm 1/4W (NB)	RD14B2E010JNBS
R463	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R464	241 2387 908	Carbon film 1 ohm 1/4W (NB)	RD14B2E010JNBS
R465	247 0002 966	Carbon chip 10 ohm 1/10W	RM73B--100J
R466	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R467	247 0013 984	Carbon chip 470 kohm 1/10W	RM73B--474J
R468	247 0006 946	Carbon chip 390 ohm 1/10W	RM73B--391J
R469	247 0007 987	Carbon chip 1.5 kohm 1/10W	RM73B--152J
R470	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R471	247 0011 957	Carbon chip 51 kohm 1/10W	RM73B--513J
R472	247 0007 961	Carbon chip 1.2 kohm 1/10W	RM73B--122J
R473	247 0009 969	Carbon chip 8.2 kohm 1/10W	RM73B--822J
R474	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J

Ref. No.	Part No.	Part Name	Remarks
R475	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B--221J
R476	247 0009 969	Carbon chip 8.2 kohm 1/10W	RM73B--822J
R477	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R478	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R479,480	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R481	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R482	247 0008 915	Carbon chip 2 kohm 1/10W	RM73B--202J
R483	247 0009 956	Carbon chip 7.5 kohm 1/10W	RM73B--752J
R484	247 0011 902	Carbon chip 33 kohm 1/10W	RM73B--333J
R485	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R486	247 0008 902	Carbon chip 1.8 kohm 1/10W	RM73B--182J
R491,492	247 0018 905	Carbon chip 0 kohm 1/10W	RM73B--0R0K
CAPACITORS GROUP			
C101	254 4252 969	Electrolytic 470 µF/10V	CE04W1A471M
C102	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z
C103	254 4261 921	Electrolytic 100 µF/50V	CE04W1H101M
C104	257 0010 900	Ceramic chip 0.01 µF/50V	CK73B1H103K
C105	254 4250 945	Electrolytic 330 µF/6.3V	CE04W0J331M
C106	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J
C107	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C109,110	257 0010 900	Ceramic chip 0.01 µF/50V	CK73B1H103K
C301~303	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C304	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z
C305~310	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C311~316	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C317,318	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C319,320	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C321	254 4252 930	Electrolytic 100 µF/10V	CE04W1A101M
C323	254 4252 930	Electrolytic 100 µF/10V	CE04W1A101M
C325~327	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z
C401,402	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z
C403	254 4305 968	Electrolytic 1 µF/50V	CE04W1H010M
C404,405	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C406	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M
C407,408	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C409~412	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C413	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M
C415,416	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C417	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C418	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M
C420	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C421,422	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C423,424	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C425,426	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C429	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C430	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M
C432	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M
C433,434	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z

Ref. No.	Part No.	Part Name	Remarks	
C435	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M	
C437,438	254 4299 906	Electrolytic 10 µF/16V	CE04W1C100M	
C439	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M	
C440	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M	
C441	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M	
C442,443	256 1034 937	Metalized 0.047 µF/50V	CF93A1H473J	
C444	257 0009 940	Ceramic chip 3300 pF/50V	CK73B1H332K	
C445	257 0008 941	Ceramic chip 470 pF/50V	CK73B1H471K	
C446	254 4305 968	Electrolytic 1 µF/50V	CE04W1H010M	
C447	256 1034 953	Metalized 0.068 µF/50V	CF93A1H683J	
C448	254 4305 968	Electrolytic 1 µF/50V	CE04W1H010M	
C449	257 0005 902	Ceramic chip 150 pF/50V	CC73SL1H151J	
C450	255 1264 911	Mylar film 1200 pF/50V	CQ93M1H122J(B)	
C451	255 1265 978	Mylar film 0.022 µF/50V	CQ93M1H223J(B)	
C452	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J	
C453	254 4306 909	Electrolytic 4.7 µF/50V	CE04W1H4R7M	
C454	254 4299 906	Electrolytic 10 µF/16V	CE04W1C100M	
C455	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M	
C456	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C457	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M	
C458	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C459~461	257 0003 946	Ceramic chip 33 pF/50V	CC73SL1H330J	
C462	257 0002 947	Ceramic chip 12 pF/50V	CC73SL1H120J	
C463	257 0002 921	Ceramic chip 10 pF/50V	CC73SL1H100D	
C464	257 0009 940	Ceramic chip 3300 pF/50V	CK73B1H332K	
C465	254 4299 906	Electrolytic 10 µF/16V	CE04W1C100M	
C466	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C467	254 4302 974	Electrolytic 100 µF/10V	CE04W1A101M	
C468	255 1264 908	Mylar film 1000 pF/50V	CQ93M1H102J(B)	
C469	254 4305 968	Electrolytic 1 µF/50V	CE04W1H010M	
C470	256 1034 937	Metalized 0.047 µF/50V	CF93A1H473J	
C471,472	257 0014 935	Ceramic chip 0.1 µF/25V	CK73F1E104Z	
OTHER PARTS GROUP				Q'ty
CN46,47	205 0885 082	4P connector socket (TUC-P)		2
CN53	205 0355 059	5P KR connector base (L)		1
CN56	205 0343 058	5P connector base (KR-PH)		1
CN64	205 0942 019	6P connector socket (TUC-P)		1
CN82	205 0885 095	8P connector socket (TUC-P)		1
CN94	203 6218 055	4P DA-DA connector cord		1
CN103	205 0985 018	10P connector socket (TKC-A)		1
CN103	205 0986 017	10P connector plug (TKC-A)		1
CN123	205 0885 079	12P connector socket (TUC-P)		1
CN132	205 0942 006	13P connector socket (TUC-P)		1
CN291	205 0702 042	29P FFC connector base (L)		1
JK301~303	204 8516 004	3P pin jack (S-GND)		3
JK401	204 8415 008	3P S-terminal (AU)		1
JK402,403	204 8414 009	2P S-terminal (AU)		2
JK404	205 0906 000	1P S-terminal (AU.SW)		1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
XL401	399 0105 009	Ceramic resonator	CSB503F2	1
XL402	399 0153 006	Ceramic resonator	14.32MHZ-12PF	1
S101,102	212 5604 910	Tact switch - TA (ALPS)		2
S103~106	212 5604 910	Tact switch - TA (ALPS)		4
S107~110	212 5604 910	Tact switch - TA (ALPS)		4
S111~114	212 5604 910	Tact switch - TA (ALPS)		4
S115~119	212 5604 910	Tact switch - TA (ALPS)		4
S118	212 5604 910	Tact switch - TA (ALPS)		1
S120-123	212 5604 910	Tact switch - TA (ALPS)		4
S124	212 5604 910	Tact switch - TA (ALPS)		1
S125~127	212 5604 910	Tact switch - TA (ALPS)		3
S128	212 0373 000	Rotaly encoder - EC16B		1
FL101	393 4156 001	FLD (FIP16FM7R)		1
L101	235 0060 989	Inductor 120 µH		1
L401	235 0060 963	Inductor 150 µH		1

1U-2952 POWER AMP.-1 UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
TR405,406	273 0235 923	Transistor 2SC1841(E/F)	
TR411,412	273 0235 923	Transistor 2SC1841(E/F)	
TR415	273 0235 923	Transistor 2SC1841(E/F)	
TR421~425	273 0388 906	Transistor 2SC1740S(E)	
TR427	273 0388 906	Transistor 2SC1740S(E)	
TR428	269 0040 902	Transistor DTC144ES (47K-47K)	
TR429	273 0388 906	Transistor 2SC1740S(E)	
TR430	273 0303 910	Transistor 2SC1740S(S)	
TR431	271 0192 905	Transistor 2SA933S(S)	
TR432	273 0303 910	Transistor 2SC1740S(S)	
TR433	271 0131 924	Transistor 2SA988(E/F)	
TR435	272 0107 919	Transistor 2SB1328 (P/Q)	
TR521	273 0303 910	Transistor 2SC1740S(S)	
TR522	271 0192 905	Transistor 2SA933S(S)	
TR523	273 0303 910	Transistor 2SC1740S(S)	
TR601,602	273 0388 906	Transistor 2SC1740S(E)	
TR603	271 0192 905	Transistor 2SA933S(S)	
D401~405	276 0432 903	Diode 1SS270A	
D417	276 0432 903	Diode 1SS270A	
D419,422	276 0432 903	Diode 1SS270A	
D450	276 0371 006	Diode S10VB20F9	
D601	276 0432 903	Diode 1SS270A	
RESISTORS GROUP			
R405~412	244 2043 982	Metal oxide 0.22 ohm 1W	RS14B3AR22JNBS(S)
R413,414	244 2051 987	Metal oxide 4.7 ohm 1W	RS14B3A4R7JNBS(S)
R415~418	241 2380 950	Carbon film 2 kohm 1/4W(NB)	RD14B2E202JNBS
R425,426	244 2043 937	Metal oxide 10 ohm 1W	RS14B3A100JNBS(S)
R433~440	244 2043 982	Metal oxide 0.22 ohm 1W	RS14B3AR22JNBS(S)
R441,442	244 2051 987	Metal oxide 4.7 ohm 1W	RS14B3A4R7JNBS(S)
R443~446	241 2380 950	Carbon film 2 kohm 1/4W(NB)	RD14B2E202JNBS
R453,454	244 2043 937	Metal oxide 10 ohm 1W	RS14B3A100JNBS(S)
R459~462	244 2043 982	Metal oxide 0.22 ohm 1W	RS14B3AR22JNBS(S)
R463	244 2051 987	Metal oxide 4.7 ohm 1W	RS14B3A4R7JNBS(S)
R464,465	241 2380 950	Carbon film 2 kohm 1/4W(NB)	RD14B2E202JNBS
R469	244 2043 937	Metal oxide 10 ohm 1W	RS14B3A100JNBS(S)
R471~478	241 2387 908	Carbon film 1 ohm 1/4W(NB)	RD14B2E010JNBS
R479~483	244 2050 933	Metal oxide 180 ohm 1W	RS14B3A181JNBS(S)
R513,514	241 2387 908	Carbon film 1 ohm 1/4W(NB)	RD14B2E010JNBS
R531,532	241 2387 940	Carbon film 4.7 ohm 1/4W(NB)	RD14B2E4R7JNBS
R601	242 0073 000	Composition 2.2 Mohm 1/2W	RC05GF2H225K
R602	241 2375 978	Carbon film 20 ohm 1/4W(NB)	RD14B2E200JNBS

Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP			
C401,402	255 1265 978	Mylar film 0.022 µF/50V	CQ93M1H223J(B)
C403,404	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C405~408	254 4263 987	Electrolytic 10 µF/100V	CE04W2A100M
C409,410	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C411,412	255 1265 978	Mylar film 0.022 µF/50V	CQ93M1H223J(B)
C413,414	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C415~418	254 4263 987	Electrolytic 10 µF/100V	CE04W2A100M
C419,420	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C421	255 1265 978	Mylar film 0.022 µF/50V	CQ93M1H223J(B)
C422	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C423,424	254 4263 987	Electrolytic 10 µF/100V	CE04W2A100M
C425	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C429	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C430	253 9039 906	BC Ceramic cap. 0.1 µF/25V	CK45=1E104Z
C431	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C432	253 9039 906	BC Ceramic cap. 0.1 µF/25V	CK45=1E104Z
C433	254 4250 945	Electrolytic 330 µF/6.3V	CE04W0J331M
C434	253 1181 904	Ceramic 0.01 µF/50V	CK45F1H103Z
C441	254 4264 025	Electrolytic 100 µF/100V	CE04W2A101M
C450,451	256 1042 903	Metalized 0.1 µF/250V	CF93A2E104K
C454~456	256 1042 903	Metalized 0.1 µF/250V	CF93A2E104K
C460,461	255 1265 936	Mylar film 0.01 µF/50V	CQ93M1H103J(B)
C463~469	255 1265 936	Mylar film 0.01 µF/50V	CQ93M1H103J(B)
C499	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C509,510	254 4260 980	Electrolytic 10 µF/50V	CE04W1H100M
C519,520	254 4260 980	Electrolytic 10 µF/50V	CE04W1H100M
C521	253 9039 906	BC Ceramic cap. 0.1 µF/25V	CK45=1E104Z
C522	254 4250 945	Electrolytic 330 µF/6.3V	CE04W0J331M
C525	254 4260 980	Electrolytic 10 µF/50V	CE04W1H100M
C601	253 8014 702	Ceramic 0.01 µF/400VAC	CK45F2GAC103MC
C602	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C603	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M

OTHER PARTS GROUP				Q'ty
CN021	205 0442 001	2P Wrapping terminal		1
CN024	205 0606 025	2P Wrapping terminal		1
CN025	205 0581 001	2P VH connector base		1
CN029	205 0581 001	2P VH connector base		1
CN034	205 0087 039	3P Wrapping terminal		1
CN036,037	205 0087 039	3P Wrapping terminal		2
CN041	205 0666 049	4P connector base(9130)		5
CN048	205 0581 030	4P VH connector(WHT)		1
CN051	205 0666 052	5P connector(9130)		5
CN057	205 0343 058	5P connector(KR-PH)		1
CN066	205 1037 062	6P pin header (TXX)		10
CN072	205 0343 074	7P connector(KR-PH)		1
CN133	205 0375 039	13P connector(KR-PH)		1
CN932	205 0343 032	3P connector(KR-PH)		1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
F001	206 1036 008	Fuse ST630MA	Europe/Asia model	1
F001	206 1039 063	Fuse (2.0A)	Taiwan model	1
F002	206 1051 009	Fuse (12A)	Taiwan model	1
F003	206 1036 011	Fuse (6.3A)	Europe/Asia model	1
F008	206 1015 016	Fuse (1.25A)	Europe/Asia model	1
F008	206 1046 014	Fuse (8A)	Taiwan model	1
JK801,802	205 1027 001	8P SP terminal(V-1)		2
L401~404	235 0068 004	Inductor(1 µH)		4
L405	235 0068 004	Inductor(1 µH)		1
RL401~405	214 0154 005	Relay(VB24SMBU)		4
RL601	214 0188 000	Relay(VS-12MBNR-SM2)(TV-8)		1
T601	233 6074 009	Power trans(Mini)-ES	Europe/Asia model	1
T601	233 5818 004	Power trans(Mini)-EU	Taiwan model	1
TP401~404	205 0154 030	3P NH connector base		4
TP405	205 0154 030	3P NH connector base		1
W412~415	203 0641 071	1P contact Ass		4
W417	203 0641 055	1P contact Ass		1
W418	203 0641 042	1P contact Ass		1
W419	203 0641 068	1P contact Ass		1
W451	203 0641 084	1P contact Ass		1
W452	203 0641 071	1P contact Ass		1
W453	203 0641 084	1P contact Ass		1
	202 0040 909	Fuse clip		4
	202 0040 909	Fuse clip		2
	279 0034 054	Posistor PTH9M04BC222TS2F333		1
	415 0309 026	P.V.C. tube(L=20)		2
	412 4165 005	Bus bar		6
	205 1034 007	M3 screw terminal		1
	203 0411 010	Connecting cord Ass		1
	203 0411 023	Connecting cord Ass		1
	203 0411 036	Connecting cord Ass		1
	203 0411 049	Connecting cord Ass		1
	203 0411 052	Connecting cord Ass		1
	513 2585 090	Fuse label	Europe/Asia model	1
	513 2654 002	Fuse label	Europe/Asia model	1
	513 2195 011	Fuse label	Europe/Asia model	1
	EP-5870	Fuse holder	Taiwan model	2

1U-2958 P. SUPPLY-3 UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC401	268 0073 905	IC ICP-N15	IC protector
IC402	263 0793 002	IC NJM7806FA(S)	
IC801	263 0680 005	IC NJM5532DD	
IC901	263 0809 006	IC NJM7805FA(S)	
IC902	263 0554 005	IC NJM7905FA	
IC903	263 0793 002	IC NJM7806FA(S)	
IC904	263 0683 002	IC NJM7906FA	
IC905	263 0809 006	IC NJM7805FA(S)	
TR402	273 0384 900	Transistor 2SC2412K(S)	
TR475	272 0131 901	Transistor 2SB1041(R)	
TR476	271 0238 908	Transistor 2SA1037K(S/R)	
TR477	274 0169 908	Transistor 2SD1292(R)	
TR478	273 0384 900	Transistor 2SC2412K(S)	
TR801~804	275 0061 902	Transistor 2SK184(GR)/(BL)	
TR807	269 0083 901	Transistor DTA114EK	
TR808	269 0082 902	Transistor DTC114EK	
TR903	269 0047 905	Transistor DTA143EK	
TR904	269 0054 901	Transistor DTC144EK	
TR905	271 0131 924	Transistor 2SA988(E/F)	
D401~406	276 0553 905	Diode 1SR35-200A	
D801,802	276 0432 903	Diode 1SS270A	
D901	276 0424 005	Diode 4D4B42 (LC1)	
D902,903	276 0432 903	Diode 1SS270A	
D904~907	276 0548 910	Diode DSM1D2	
D908,909	276 0553 905	Diode 1SR35-200A	
ZD401	276 0644 911	Zener diode MTZJ7.5A	7.5V
ZD902,903	276 0644 937	Zener diode MTZJ9.1A	9.1V
ZD901	276 0645 978	Zener diode MTZJ36A	36V
RESISTORS GROUP (Not included carbon film ±5% 1/4W)			
R402	247 0009 901	Carbon chip 4700 ohm 1/10W	RM73B--472J
R404	247 0009 901	Carbon chip 4700 ohm 1/10W	RM73B--472J
R405	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R406	247 0010 958	Carbon chip 20 kohm 1/10W	RM73B--203J
R411	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R412~414	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R801,802	247 0011 973	Carbon chip 62 kohm 1/10W	RM73B--623J
R803,804	247 0007 987	Carbon chip 1.5 kohm 1/10W	RM73B--152J
R805,806	247 0011 973	Carbon chip 62 kohm 1/10W	RM73B--623J
R807,808	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R809,810	247 0007 961	Carbon chip 1.2 kohm 1/10W	RM73B--122J
R811,812	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B--221J
R813,814	247 0009 998	Carbon chip 11 kohm 1/10W	RM73B--113J
R815,816	247 0008 902	Carbon chip 1.8 kohm 1/10W	RM73B--182J
R817,818	247 0002 911	Carbon chip 6.2 ohm 1/10W	RM73B--6R2K
R819,820	247 0005 976	Carbon chip 200 ohm 1/10W	RM73B--201J
R821,822	247 0004 906	Carbon chip 39 ohm 1/10W	RM73B--390J
R823,824	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R825,826	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R829,830	247 0013 900	Carbon chip 220 kohm 1/10W	RM73B--224J
R901	241 2376 919	Carbon film 30 ohm 1/4W (NB)	RD14B2E300JNBS
R903	241 2375 907	Carbon film 10 ohm 1/4W (NB)	RD14B2E100JNBS
R905	241 2387 940	Carbon film 4.7 ohm 1/4W (NB)	RD14B2E4R7JNBS
VR801	211 0797 133	Variable resistor 10 kohm	
VR802	211 0797 117	Variable resistor 30 kohm	
CAPACITORS GROUP			
C402	254 4256 790	Electrolytic 2200 µF/25V	CE04W1E222MC
C403	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C404	254 4254 909	Electrolytic 10 µF/16V	CE04W1C100M
C405	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C406,407	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C408	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C410	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C801,802	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C803,804	254 4254 938	Electrolytic 47 µF/16V	CE04W1C470M
C805,806	255 4200 901	Mylar film 100 pF/50V	CQ93P1H101J
C807,808	255 1264 940	Mylar film 2200 pF/50V	CQ93M1H222J(B)
C809,810	256 1035 907	Metalized 0.18 µF/50V	CF93A1H184J
C811,812	254 4260 948	Electrolytic 1 µF/50V	CE04W1H010M
C815,816	255 1265 949	Mylar film 0.012 µF/50V	CQ93M1H123J(B)
C817,818	256 1034 940	Metalized 0.056 µF/50V	CF93A1H563J
C819,820	254 4260 922	Electrolytic 0.03 µF/50V	CE04W1HR33M
C901,902	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C903,904	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C905	254 4363 706	Electrolytic 8200 µF/25V	CE04W1E822MC
C906	254 4256 787	Electrolytic 1000 µF/25V	CE04W1E102MC
C907	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C908,909	254 4258 947	Electrolytic 47 µF/35V	CE04W1V470M
C910,911	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C912,913	253 1146 907	Ceramic 0.01 µF/50V	CK45F1H103Z
C914,915	254 4257 702	Electrolytic 3300 µF/25V	CE04W1E332MC
C916~919	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z
C920,921	254 4258 947	Electrolytic 47 µF/35V	CE04W1V470M
C922	256 1034 979	Metalized 0.1 µF/50V	CF93A1H104J
C923,924	254 4261 743	Electrolytic 330 µF/50V	CE04W1H331MC

Ref. No.	Part No.	Part Name	Remarks	Q'ty
C925,926	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M	
C927	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z	
C928	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M	
C929~935	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z	
C936,937	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K	
C939	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K	
OTHER PARTS GROUP				Q'ty
CN032	205 0653 036	3P VH connector base		1
CN042	205 0884 083	4P connector base (TUC-P)		1
CN044	205 0884 083	4P connector base (TUC-P)		1
CN046	205 0884 083	4P connector base (TUC-P)		1
CN047	205 0884 083	4P connector base (TUC-P)		1
CN053	205 0343 058	5P connector base (KR-PH)		1
CN054	205 0233 058	5P EH connector base		1
CN057	205 0343 058	5P connector base (KR-PH)		1
CN061	205 0943 018	6P connector base (TUC-P)		1
CN063,064	205 0943 018	6P connector base (TUC-P)		2
CN081~083	205 0884 096	8P connector base (TUC-P)		3
CN086	205 0884 096	8P connector base (TUC-P)		1
CN089	205 0884 096	8P connector base (TUC-P)		1
CN091	205 0884 038	9P connector base (TUC-P)		1
CN094	205 0343 090	9P connector base (KR-PH)		1
CN099	205 0884 038	9P connector base (TUC-P)		1
CN109	205 0884 054	10P connector base (TUC-P)		1
CN111	205 0884 067	11P connector base (TUC-P)		1
CN113	205 0884 067	11P connector base (TUC-P)		1
CN121	205 0884 070	12P connector base (TUC-P)		1
CN123	205 0884 070	12P connector base (TUC-P)		1
CN132	205 0943 005	13P connector base (TUC-P)		1
CN142	205 0884 012	14P connector base (TUC-P)		1
CN143	205 1030 014	14P connector socket TRC-X		1
CN149	205 0884 012	14P connector base (TUC-P)		1
CN261,262	205 1030 001	26P connector socket TRC-X		2
F011~014	202 0040 909	Fuse clip		4
F011,012	206 1015 061	Fuse 2A	Europe/Asia model	2
F011,012	206 1039 063	Fuse 2A	Taiwan model	2
F013,014	206 1015 087	Fuse 4.0A	Europe/Asia model	2
F013,014	206 1039 092	Fuse 4.0A	Taiwan model	2
	202 0040 909	Fuse clip		4
	417 0253 026	Radiator		1
	513 2585 032	Fuse label		2
	513 2585 058	Fuse label		2

1U-2959 DSP UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC001	262 2312 006	IC ZR38500(A3)	
IC003	399 0299 009	IC SG-531PH(33MHZ)	
IC016	262 1665 903	IC HD74HC74FP-TR	
IC017	262 1641 901	IC HD74HC157FP-TR	
IC018	262 2212 902	IC CS8412CS	
IC019	262 1718 902	IC TC74HC00AF	
IC020	262 1348 903	IC TC74HC123AF	
IC021	262 1640 902	IC HD74HC14FP-TR	
IC051,052	262 2324 900	IC MCM6205DJ15	
IC101	262 2158 901	IC AK5340-VS-E1	
IC102	399 0300 008	IC SG-531PH(12.288MHZ)	
IC103,104	263 0934 900	IC BA4510F	
IC105	263 0673 902	IC BA10393F	
IC154~156	263 0896 909	IC NJM2068MD	
IC201~207	263 0896 909	IC NJM2068MD	
IC208	262 1853 100	IC NJU7313AL	
IC301	263 1018 003	IC MC14577CP	
IC302	263 0615 902	IC BA15218F	
IC303	263 1039 901	IC NJM360M	
IC304	262 1205 907	IC TC74HCU04AF	
IC305	263 0615 902	IC BA15218F	
IC306	262 2211 000	IC PD4606A	
IC307	399 0298 000	IC SG-531PH(46.08MHZ)	
IC308	262 2324 900	IC MCM6205DJ15	
IC309	262 1205 907	IC TC74HCU04AF	
IC310	269 0097 007	IC GP1F32R	
IC314	262 1205 907	IC TC74HCU04AF	
IC315	262 2213 901	IC TC74HC151AF	
IC317	263 0755 008	IC CX20106A	
IC401	262 2321 013	IC TMP87CS71F-6519	
IC402	262 2322 012	IC TMP87CP71F-6520	
IC501~503	262 2210 904	IC SM5841HS	
IC504~506	262 2145 008	IC PCM69AP	
IC507~509	263 0896 909	IC NJM2068MD	
TR102	273 0384 900	Transistor 2SC2412K(S)	
TR151~156	273 0414 906	Transistor 2SC3326(A/B)	
TR157	269 0083 901	Transistor DTA114EK	
TR201~203	275 0094 908	Transistor 2SK209-GR	
TR204	269 0055 900	Transistor DTA144EK	
TR205	269 0054 901	Transistor DTC144EK	
TR301	273 0384 900	Transistor 2SC2412K(S)	
TR302	269 0119 901	Transistor DTA124EK	
TR303	273 0384 900	Transistor 2SC2412K(S)	

Ref. No.	Part No.	Part Name	Remarks
TR304	271 0238 908	Transistor 2SA1037K(S/R)	
TR305	272 0131 901	Transistor 2SB1041(R)	
TR306	271 0238 908	Transistor 2SA1037K(S/R)	
TR307	274 0169 908	Transistor 2SD1292(R)	
TR308	273 0384 900	Transistor 2SC2412K(S)	
TR309	269 0083 901	Transistor DTA114EK	
TR401	269 0083 901	Transistor DTA114EK	
TR402	269 0054 901	Transistor DTC144EK	
TR403	273 0384 900	Transistor 2SC2412K(S)	
TR404,405	269 0054 901	Transistor DTC144EK	
D101~106	276 0438 910	Diode MA151A	
D108	276 0438 910	Diode MA151A	
D201~203	276 0438 910	Diode MA151A	
D301~303	276 0438 910	Diode MA151A	
D401~403	276 0438 910	Diode MA151A	
D404	276 0553 905	Diode1SR35-200A	
CD301	276 0663 905	Diode KV1851-TL	
ZD401	276 0634 905	Zener diode MTZJ3.3A	3.3V
RESISTORS GROUP			
R028	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R030	247 0006 904	Carbon chip 270 ohm 1/10W	RM73B--271J
R031~033	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R035	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R036	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R037	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R038	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R039,040	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R051	244 2043 953	Metal oxide 470 ohm 1W	RS14B3A471JNBS(S)
R052~056	247 0004 922	Carbon chip 47 ohm 1/10W	RM73B--470J
R057	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R058	247 0004 922	Carbon chip 47 ohm 1/10W	RM73B--470J
R059	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R060	247 0004 922	Carbon chip 47 ohm 1/10W	RM73B--470J
R061	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R062	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R063~065	247 1018 904	Carbon chip 0 ohm 1/10W	RM73B20R0K
R101~104	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R105,106	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R107,108	247 0009 998	Carbon chip 11 kohm 1/10W	RM73B--113J
R109~114	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R115~118	247 0006 920	Carbon chip 330 kohm 1/10W	RM73B--331J
R120~123	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J

Ref. No.	Part No.	Part Name	Remarks
R124	247 0010 903	Carbon chip 12 kohm 1/10W	RM73B--123J
R125~127	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R128~130	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R131~137	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R151,152	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R153~156	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R159,160	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R161,162	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B--221J
R163,164	247 0008 960	Carbon chip 3.3 kohm 1/10W	RM73B--332J
R165~168	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R169	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R170	247 0009 943	Carbon chip 6.8 kohm 1/10W	RM73B--682J
R171	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R172	247 0009 943	Carbon chip 6.8 kohm 1/10W	RM73B--682J
R175,176	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R177,178	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B--221J
R179,180	247 0008 960	Carbon chip 3.3 kohm 1/10W	RM73B--332J
R181--184	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R185~188	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R191,192	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R193,194	247 0005 989	Carbon chip 220 ohm 1/10W	RM73B--221J
R195,196	247 0008 960	Carbon chip 3.3 kohm 1/10W	RM73B--332J
R197,198	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R201,202	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R203,204	247 0010 932	Carbon chip 16 kohm 1/10W	RM73B--163J
R205~208	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R209,210	247 0007 932	Carbon chip 910 ohm 1/10W	RM73B--911J
R211,212	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R213,214	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R215,216	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R217.218	247 0009 930	Carbon chip 6.2 kohm 1/10W	RM73B--622J
R219,220	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R221,222	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R223,224	247 0008 960	Carbon chip 3.3 kohm 1/10W	RM73B--332J
R225,226	247 0009 927	Carbon chip 5.6 kohm 1/10W	RM73B--562J
R227,228	247 0008 960	Carbon chip 3.3 kohm 1/10W	RM73B--332J
R229,230	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R231,232	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R233	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R234	247 0010 932	Carbon chip 16 kohm 1/10W	RM73B--163J
R235,236	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R237	247 0007 932	Carbon chip 910 ohm 1/10W	RM73B--911J
R238	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R239	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R240	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R241	247 0009 930	Carbon chip 6.2 kohm 1/10W	RM73B--622J
R242	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R243	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R244,245	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R246	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R247	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J

Ref. No.	Part No.	Part Name	Remarks
R248~250	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R252~255	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R256,257	247 0010 974	Carbon chip 24 kohm 1/10W	RM73B--243J
R258	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R259,260	247 0009 901	Carbon chip 4.2 kohm 1/10W	RM73B--472J
R261	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R262	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R264	247 0010 961	Carbon chip 22 kohm 1/10W	RM73B--223J
R265,266	247 0010 932	Carbon chip 16 kohm 1/10W	RM73B--163J
R267~270	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R271,272	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R273,274	247 0007 932	Carbon chip 910 ohm 1/10W	RM73B--911J
R275	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R276	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R301~304	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R305	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R306	247 0004 980	Carbon chip 82 ohm 1/10W	RM73B--820J
R307~309	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R310	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R311	247 0005 947	Carbon chip 150 ohm 1/10W	RM73B--151J
R312	247 0008 928	Carbon chip 2.2 kohm 1/10W	RM73B--222J
R313	247 0006 920	Carbon chip 330 ohm 1/10W	RM73B--331J
R314~316	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R317	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R318,319	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R320	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R321,322	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R323,324	247 0008 944	Carbon chip 2.7 kohm 1/10W	RM73B--272J
R325,326	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R327	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R328	247 0011 986	Carbon chip 68 kohm 1/10W	RM73B--683J
R329	247 0004 964	Carbon chip 68 ohm 1/10W	RM73B--680J
R331,332	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R333,334	247 0013 900	Carbon chip 220 kohm 1/10W	RM73B--224J
R335	247 0009 956	Carbon chip 7.5 ohm 1/10W	RM73B--752J
R336	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R337~341	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R342	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R343	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R344	247 0013 900	Carbon chip 220 kohm 1/10W	RM73B--224J
R346	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R347,348	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R349	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R350	247 0005 921	Carbon chip 120 ohm 1/10W	RM73B--121J
R351~353	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R354	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R355	247 0014 967	Carbon chip 1 Mohm 1/10W	RM73B--105J
R356	247 0006 962	Carbon chip 470 ohm 1/10W	RM73B--471J
R357	247 0012 969	Carbon chip 150 kohm 1/10W	RM73B--154J
R358,359	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R360	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J

Ref. No.	Part No.	Part Name	Remarks
R361	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R362	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R363	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R364~366	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R367~369	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R370	247 0004 977	Carbon chip 75 ohm 1/10W	RM73B--750J
R371	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R372	247 0008 928	Carbon chip 2.2 ohm 1/10W	RM73B--222J
R373	247 0011 944	Carbon chip 47 kohm 1/10W	RM73B--473J
R374	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R375	247 0011 928	Carbon chip 93 kohm 1/10W	RM73B--393J
R376	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R377	247 0004 922	Carbon chip 47 ohm 1/10W	RM73B--470J
R378	247 0012 972	Carbon chip 160 kohm 1/10W	RM73B--164J
R379	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R401	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R402	247 0012 927	Carbon chip 100 kohm 1/10W	RM73B--104J
R403	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R404~411	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R412~415	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R424	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R426	247 0006 975	Carbon chip 510 ohm 1/10W	RM73B--511J
R427	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R429,430	247 0005 905	Carbon chip 100 ohm 1/10W	RM73B--101J
R431~434	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R435~448	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R454	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R455	247 0013 900	Carbon chip 220 kohm 1/10W	RM73B--224J
R456	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R457	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R458	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R459	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R460	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R461,462	247 0007 945	Carbon chip 1 kohm 1/10W	RM73B--102J
R463	241 2387 940	Carbon film 4.7 ohm 1/4W(NB)	RD14B2E4R7JNBS
R464	247 0018 905	Carbon chip 0 ohm 1/10W	RM73B--0R0K
R466	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R468,469	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R470~472	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R473	247 0008 928	Carbon chip 2.2 kohm 1/10W	RM73B--222J
R481	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R482~486	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R486,487	247 0009 985	Carbon chip 10 kohm 1/10W	RM73B--103J
R501~515	247 0006 920	Carbon chip 330 ohm 1/10W	RM73B--331J
R517,518	247 0007 961	Carbon chip 1.2 kohm 1/10W	RM73B--122J
R519,520	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R521~524	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
R525,526	247 0007 961	Carbon chip 1.2 kohm 1/10W	RM73B--122J
R527,528	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R529~532	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J

Ref. No.	Part No.	Part Name	Remarks
R533,534	247 0007 961	Carbon chip 1.2 kohm 1/10W	RM73B--122J
R535,536	247 0006 988	Carbon chip 560 ohm 1/10W	RM73B--561J
R537~540	247 0009 901	Carbon chip 4.7 kohm 1/10W	RM73B--472J
CAPACITORS GROUP			
C039~042	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C043	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C044	256 1034 937	Metalized 0.047 μF/50V	CF93A1H473J
C045,046	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C047	254 4196 957	Electrolytic 2.2 μF/50V	CE04W1H2R2M (SRA)
C048	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C051~055	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C056	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C057~061	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C062	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M
C063~067	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C068	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C069~072	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C073	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C074,075	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C076	256 1034 979	Metalized 0.1 μF/50V	CF93A1H104J
C077	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C078	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C079~081	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C082	254 4196 957	Electrolytic 2.2 μF/50V	CE04W1H2R2M (SRA)
C083	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C101,102	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C103,104	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C105,106	254 4196 944	Electrolytic 1 μF/50V	CE04W1H010M (SRA)
C107,108	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C109,110	255 1264 924	Mylar film 1500 pF/50V	CQ93M1H152J(B)
C112-115	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C116	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C118	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C119	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C120	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C122	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C123	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C124	256 1034 979	Metalized 0.1 μF/50V	CF93A1H104J
C125	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C126	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C127	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C128	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C129	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J
C130~139	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C151,152	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C153~158	255 1265 907	Mylar film 6800 pF/50V	CQ93M1H682J(B)
C159,160	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C161,162	255 4202 925	Mylar film 820 pF/50V	CQ93P1H821J
C163,164	255 4201 926	Mylar film 330 pF/50V	CQ93P1H331J

Ref. No.	Part No.	Part Name	Remarks
C165,166	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C175,176	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C177	255 4202 925	Mylar film 820 pF/50V	CQ93P1H821J
C178	256 1034 979	Metalized 0.1 μF/50V	CF93A1H104J
C179	255 4201 926	Mylar film 330 pF/50V	CQ93P1H331J
C180	256 1034 937	Metalized 0.047 μF/50V	CF93A1H473J
C181,182	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C191,192	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C193,194	255 4202 925	Mylar film 820 pF/50V	CQ93P1H821J
C195,196	255 4201 926	Mylar film 330 pF/50V	CQ93P1H331J
C197,198	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C201,202	256 1034 966	Metalized 0.082 μF/50V	CF93A1H823J
C203,204	256 1034 982	Metalized 0.12 μF/50V	CF93A1H124J
C205~208	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C209,210	255 1264 982	Mylar film 4700 pF/50V	CQ93M1H472J(B)
C211,212	254 4252 930	Electrolytic 100 μF/10V	CE04W1A101M
C213,214	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C215	256 1034 966	Metalized 0.082 μF/50V	CF93A1H823J
C216	256 1034 982	Metalized 0.12 μF/50V	CF93A1H124J
C217,218	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C219	255 1264 982	Mylar film 4700 pF/50V	CQ93M1H472J(B)
C220	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C221,222	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C223,224	257 0012 982	Ceramic chip 0.022 μF/50V	CK73F1H223Z
C225	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C228	256 1034 982	Metalized 0.12 μF/50V	CF93A1H124J
C229	256 1034 940	Metalized 0.056 μF/50V	CF93A1H563J
C230,231	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C232	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C233,234	254 4196 944	Electrolytic 1 μF/50V	CE04W1H010M (SRA)
C235,236	256 1034 966	Metalized 0.082 μF/50V	CF93A1H823J
C237,238	256 1034 982	Metalized 0.12 μF/50V	CF93A1H124J
C239,240	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C241~250	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C251,252	254 4196 944	Electrolytic 1 μF/50V	CE04W1H010M (SRA)
C303	257 0011 941	Ceramic chip 0.022 μF/25V	CK73B1E223K
C304~307	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M
C308	257 0004 932	Ceramic chip 75 pF/50V	CC73SL1H750J
C309,310	257 0010 900	Ceramic chip 0.01 μF/50V	CK73B1H103K
C311	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C312	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C313	256 1035 952	Metalized 0.47 μF/50V	CF93A1H474J
C314	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C315	256 1035 952	Metalized 0.47 μF/50V	CF93A1H474J
C316	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C318~321	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C322,323	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C324~326	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C327	254 3053 936	Electrolytic 47 μF/16V	CE04D1C470MBP
C328	257 0011 996	Ceramic chip 0.1 μF/25V	CK73B1E104K

Ref. No.	Part No.	Part Name	Remarks
C329	257 0010 900	Ceramic chip 0.01 μF/50V	CK73B1H103K
C330,331	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M
C332	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C333	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C334	257 0010 900	Ceramic chip 0.01 μF/50V	CK73B1H103K
C335	254 4252 930	Electrolytic 100 μF/10V	CE04W1A101M
C336	257 0002 963	Ceramic chip 15 pF/50V	CC73SL1H150J
C338	254 4254 938	Electrolytic 47 μF/16V	CE04W1C470M
C339	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C346	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C348	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C349	257 0003 904	Ceramic chip 22 pF/50V	CC73SL1H220J
C350	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C351,352	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C354	254 4256 923	Electrolytic 33 μF/25V	CE04W1E330M
C355,356	254 4260 948	Electrolytic 1 μF/50V	CE04W1H010M
C357	254 4260 964	Electrolytic 3.3 μF/50V	CE04W1H3R3M
C358	257 0005 986	Ceramic chip 330 pF/50V	CC73SL1H331J
C359	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C360	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C401	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C404	257 0014 935	Ceramic chip 0.1 μF/25V	CK73F1E104Z
C412	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C413	254 4250 932	Electrolytic 220 μF/6.3V	CE04W0J221M
C414	256 1034 982	Metalized 0.12 μF/50V	CF93A1H124J
C415	254 4254 909	Electrolytic 10 μF/16V	CE04W1C100M
C416	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C417	259 0007 702	Back up cap. 8200 μF	SB CAP==822=C
C418	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C472	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C473,474	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C476~482	257 0008 983	Ceramic chip 1000 pF/50V	CK73B1H102K
C501~503	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C504,506	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C507~509	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C510~515	257 0012 966	Ceramic chip 0.01 μF/50V	CK73F1H103Z
C516~518	254 4193 905	Electrolytic 10 μF/16V	CE04W1C100M (SRA)
C519~530	254 4252 930	Electrolytic 100 μF/10V	CE04W1A101M
C531~542	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J

OTHER PARTS GROUP				Q'ty
CN033	205 0343 032	3P connector base(KR-PH)		2
CN072	205 0343 074	7P connector base(KR-PH)		1
CN093	205 0343 090	9P connector base(KR-PH)		1
CN122	205 0375 026	12P connector base(KR-PH)		1
CN143	205 1032 012	14P connector plug TRC-X		1
CN261,262	205 1032 009	26P connector plug TRC-X		2
Ref. No.	**Part No.**	**Part Name**	**Remarks**	**Q'ty**
CN271	205 0815 023	27P FFC base(BTM)		1
CN271	205 0702 084	27P FFC connector base(L)		1
CN291	205 0815 036	29P FFC base(BTM)		1
FB101,102	235 0049 900	Beads inductor		2
FB103	235 0106 908	Chip emifil (21A05)		1
FB201~203	235 0049 900	Beads inductor		3
FB204~207	235 0049 900	Beads inductor		3
FB208~211	235 0049 900	Beads inductor		4
FB212~215	235 0049 900	Beads inductor		4
FB216	235 0049 900	Beads inductor		1
FB301	235 0106 908	Chip emifil (21A05)		1
FB302	235 0106 908	Chip emifil (21A05)		1
FB401,402	235 0049 900	Beads inductor		2
JK301	204 8357 030	2P pin jack		1
JK302	204 8260 004	Mini jack		1
L301	235 0060 905	Inductor 2.2 μH		1
L302	235 0070 953	Inductor 68 μH		1
L303,304	235 0060 918	Inductor 4.7 μH		2
L308	235 0060 905	Inductor 2.2 μH		1
LF301	261 0152 003	Band pass filter 2.88M BPF(5VLT)		1
LF302~305	235 0048 901	EMI filter (103)TP		4
LF401,402	235 0048 901	EMI filter (103)TP		2
W002	203 0526 073	1P contact Ass		1
X301	399 0311 000	Crystal (18.432MHZ)		1
X401,402	399 0191 903	Ceramic resonator CST4.00MGW-TF01		2

PARTS LIST OF EXPLODED VIEW

(BLACK MODEL)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-2944	Power amp.P.W.B. unit-2		1s
2	1U-2948-1	Audio in P.W.B. unit		1s
2-1	1U-2948-3	Ext. in P.W.B. unit		(1)
2-2	1U-2948-4	Volume-1 P.W.B.unit		(1)
3	1U-2949-1	Pre amp.P.W.B.unit		1s
3-1	1U-2949-2	Power supply-2 P.W.B.unit		(1)
3-2	1U-2949-3	Remocon P.W.B.unit		(1)
3-3	1U-2949-4	Head phone P.W.B.unit		(1)
3-4	1U-2949-5	Volume-2 P.W.B.unit		(1)
3-5	1U-2949-6	Power supply-4 P.W.B. unit		(1)
3-6	1U-2949-11	Power switch P.W.B.unit		(1)
4	1U-2951-1	S-video P.W.B.unit		1s
4-1	1U-2951-2	C-video P.W.B.unit		(1)
4-2	1U-2951-3	Display P.W.B.unit		(1)
4-3	1U-2951-4	Master volume P.W.B.unit		(1)
4-4	1U-2951-5	Switch P.W.B.unit		(1)
4-5	1U-2951-6	Volume LED P.W.B.unit		(1)
5	1U-2952-1	Power amp.P.W.B.unit-2		1s
5-1	1U-2952-2	Power supply-1 P.W.B.unit		(1)
5-2	1U-2952-3	Speaker termial P.W.B.unit		(1)
5-3	1U-2952-4	Power supply-5 P.W.B.unit		(1)
6	1U-2958-1	Power supply-3 P.W.B.unit		1s
6-1	1U-2958-2	Wiring P.W.B.unit		(1)
6-2	1U-2958-3	Tone-2 P.W.B.unit		(1)
7	1U-2959-1	DSP P.W.B.unit		1s
7-1	1U-2959-2	Micon P.W.B.unit		(1)
8	411 1350 205	Front chassis		1
9	412 4160 000	Phone bracket		1
10	412 4161 106	Volume bracket		1
11	441 1793 009	Snap plate		1
12	412 2741 007	P.W.B.holder	H=8	1
13	412 2814 002	Card speacer	L=8	1
14	411 1349 203	Trance chassis		1
15	415 9032 006	P.C.B.holder (T)		1
16	445 0114 005	Wire clip		4
17	412 4148 006	P.W.B.bracket		1
18	411 1351 107	Side chassis (L)		1
19	411 1352 106	Side chassis (R)		1
20	412 2814 028	Card spacer	L=10	3
21	417 0538 000	Radiator		1
22	415 0234 007	Insulating sheet		1
23	412 4146 008	Radiator support (F)	FRONT	1
24	412 4147 007	Radiator support (R)	REAR	1
25	412 2814 028	Card spacer	L=10	2
26	414 0782 006	Shield bracket (TU)		1
27	412 2814 044	Card spacer	L=6	2
28	449 0133 004	P.W.B.holder		2
29	105 1209 464	Back panel		1
30	477 0018 001	Washer (P-87)		1
31	205 0071 016	Terminal Ass'y		1
32	105 1211 012	Back plate		1
35	412 4150 104	P.W.B.support		1
36	417 0537 111	Power radiator		1
37	272 0147 005	Transistor 2SB1317(S)		5
38	274 0184 006	Transistor 2SD1975(S)		5
39	412 4127 001	P.W.B bracet (B)		2
40	412 4144 107	Radiator bracket (F)		1
41	412 4145 106	Radiator bracket (R)		1
42	414 0784 208	Shield chassis (D)		1
43	144 2518 224	Front panel Ass'y		1
44	113 1791 009	Selector knob		11
45	412 4163 007	Switch bracket		1
46	113 1464 019	Push knob		2
47	412 2741 036	P.W.B.holder	H=10	1
48	449 0133 017	P.W.B.holder		1
49	105 1207 204	Bottom cover		1
50	104 0194 205	Foot Ass'y		4
51	—	—		
52	233 6209 007	Power trans (PRE)		1
53	412 4157 000	Trans bracket		1
54	233 6213 006	Power trans (E3)	Taiwan model	1
	233 6214 005	Power trans (E2)	Europe/Asia model	1
55	412 4151 006	Support bracket (A)		1
56	412 4152 005	Support bracket (B)		1
57	—	—		
58	102 0576 225	Top cover		1
59	112 0790 008	Knob Ass'y (M)		1
60	112 0685 100	Knob (MARU)		2
61	113 1792 008	Power knob Ass'y		1
62	461 0501 005	Rubber sheet		4
63	—	Asatate cross tape (360x20)	Sub-material	1
64	461 0539 051	Rubber sheet		1
65	461 0390 038	Rubber sheet		1
66	449 0133 017	P.W.B. holder		1
67	415 0680 033	Spacer		2
68	414 0797 004	Shield plate(A)		1
69	415 0680 020	Spacer		1
70	414 0798 003	Shield plate(B)		1
71	461 0315 039	Cushion sheet		1
72	414 0800 108	Shield plate		1
73	414 0799 109	Shield plate		1
74	415 0680 046	Spacer(119x85)		2
75	461 0501 005	Rubber sheet		2
76	445 8004 007	Wire clamper		17
77	203 3942 007	AC Outlet	Europe model	1
78	203 3970 008	AC Inlet	Europe/Asia model	1
	203 3962 003	AC Inlet	Taiwan model	
79	477 0096 007	Push rivet	Europe/Asia model	16
80	—	—		
81	449 0080 021	Edging		1
82	449 0080 063	Edging		2

Ref. No.	Part No.	Part Name	Remarks	Q'ty
SCREWS				
101	473 7015 018	Screw 3x8	CBTS (S)-B	71
102	473 7002 018	Screw 3x8	CBTS (S)-Z	54
103	473 7500 015	Screw 3x8	CBTS (P)-Z	3
104	473 7005 002	Screw 3x10	CBTS (S)-Z	7
105	473 8007 009	Cup screw 3x12		11
106	473 7007 000	Screw 4x8	CBTS (S)-B	4
107	473 7007 013	Screw 4x10	CBTS (S)-B	8
108	477 0064 107	Fixing screw		24
109	473 7505 007	Screw 2.6x8	CBTS (P)-Z	20
110	477 0263 005	3P swelling screw		10
111	473 7003 017	Screw 3x8	CFTS(S)-B	3
112	477 0276 018	Earth screw		1
113	473 7002 034	Screw 3x6	CBTS(S)-B	1
PACKING & ACCESORIES (Not included EXPLODED VIEW)				
121	GEN3653	Envelope sub. Ass'y		1
122	505 8006 019	Envelope		1
123	511 3016 009	Instructions manual	Europe model	1
123	511 3011 004	Instructions manual	Asia/Taiwan model	1
124	515 0671 300	Service station list		1
125	399 0332 005	Remote control	RC-820	1
126		Batteries		
127	206 2147 006	AC Cord with conn.	Europe/Asia model only	1
128	206 2148 005	AC Cord (BS3p)	Asia model only	1
129	206 2150 103	AC Cord with conn.	Taiwan model only	1
130				
131	504 9102 029	Styrene paper		1
132	505 9102 019	Poly cover		1
133	503 1225 008	Cushion (L)		1
134	503 1226 007	Cushion (R)		1
135	501 1932 023	Carton case	Europe model	1
135	501 1932 010	Carton case	Asia model	1
135	501 1932 023	Carton case	Taiwan model	1
136	503 1232 004	Cushion	Asia model	

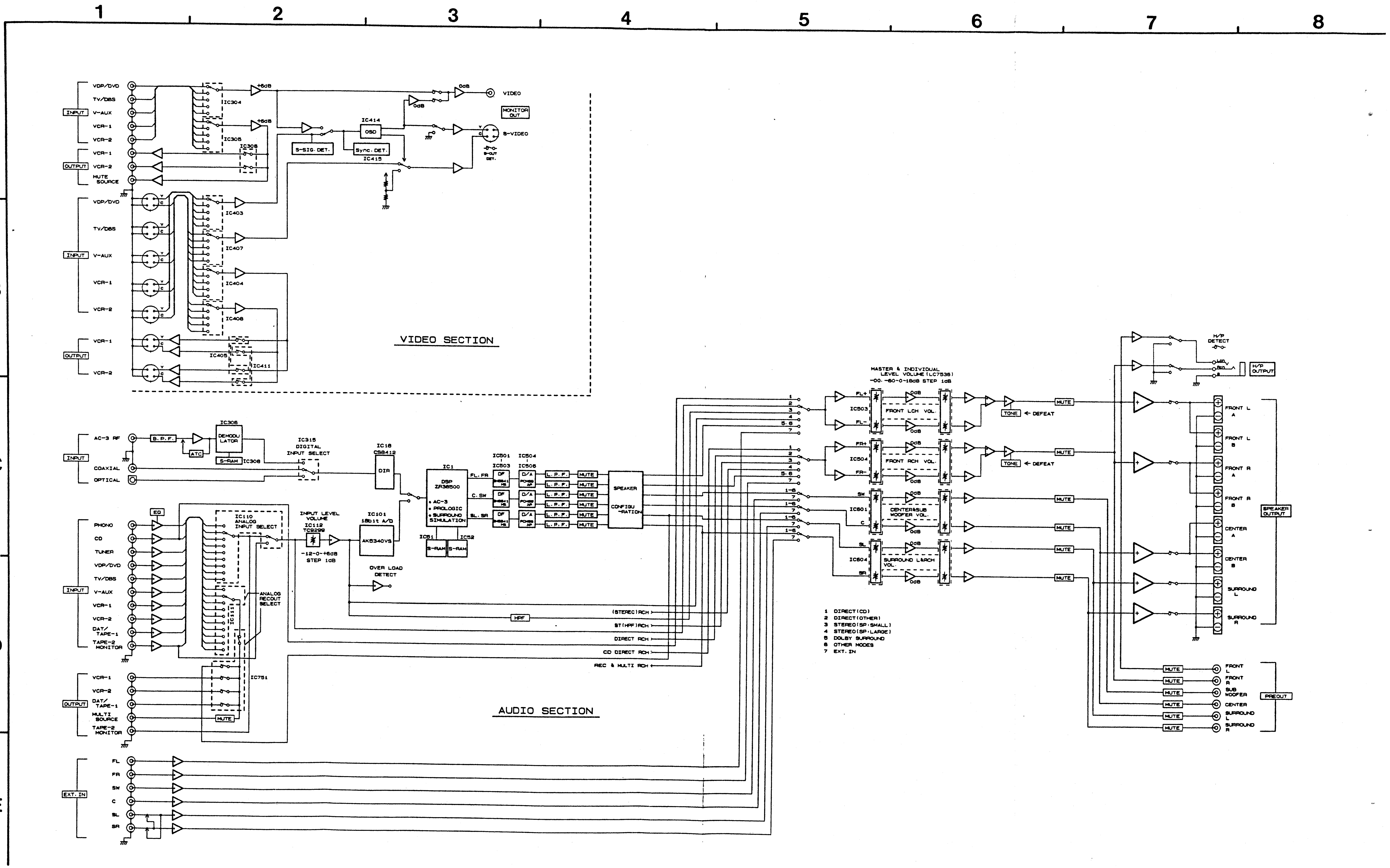
(GOLD MODEL)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
43	144 2518 337	Front panel Ass'y		1
44	113 1791 012	Selector knob		11
46	113 1464 006	Push knob		2
58	102 0576 238	Top cover		1
59	112 0790 011	Knob Ass'y (M)		1
60	112 0685 113	Knob (MARU)		2
61	114 0130 017	Power knob Ass'y		1
110	477 0263 018	3P swelling screw		10

(TAIWAN MODEL)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
29	105 1209 448	Back panel		1
78	203 3962 003	AC Inlet		1
111	473 7002 021	Screw 3x8	CBTS(S)-B	2

BLOCK DIAGRAM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A
B
C
D
E
INPUT
VDP/DVD
TV/DBS
V-AUX
VCR-1
VCR-2
OUTPUT
VCR-1
VCR-2
MUTE SOURCE
IC304
IC305
IC308
+6dB
+6dB
0dB
0dB
VIDEO
MONITOR OUT
S-VIDEO
S-OUT DET.
IC414
OSD
S-SIG. DET.
Sync. DET.
IC415
Y
C
IC403
IC407
IC404
IC408
IC405
IC411
VIDEO SECTION
AC-3 RF
COAXIAL
OPTICAL
B.P.F.
ATC
IC306
DEMODULATOR
S-RAM
IC308
IC315
DIGITAL INPUT SELECT
IC18
CS8412
DIR
IC1
DSP
ZR38500
• AC-3
• PROLOGIC
• SURROUND SIMULATION
IC51
IC52
S-RAM
S-RAM
FL. FR
C. SW
SL. SR
IC501
IC503
IC504
IC506
DF
D/A
L.P.F.
MUTE
SPEAKER CONFIGU-RATION
EQ
PHONO
CD
TUNER
VDP/DVD
TV/DBS
V-AUX
VCR-1
VCR-2
DAT/TAPE-1
TAPE-2 MONITOR
IC110
ANALOG INPUT SELECT
INPUT LEVEL VOLUME
IC112
TC9299
-12-0-+6dB STEP 1dB
IC101
18bit A/D
AK5340VS
OVER LOAD DETECT
ANALOG RECOUT SELECT
IC111
IC751
OUTPUT
VCR-1
VCR-2
DAT/TAPE-1
MULTI SOURCE
TAPE-2 MONITOR
MUTE
HPF
(STEREO)RCH
ST(HPF)RCH
DIRECT RCH
CD DIRECT RCH
REC & MULTI RCH
AUDIO SECTION
EXT. IN
FL
FR
SW
C
SL
SR
MASTER & INDIVIDUAL LEVEL VOLUME (LC7536)
-00. -60-0-18dB STEP 1dB
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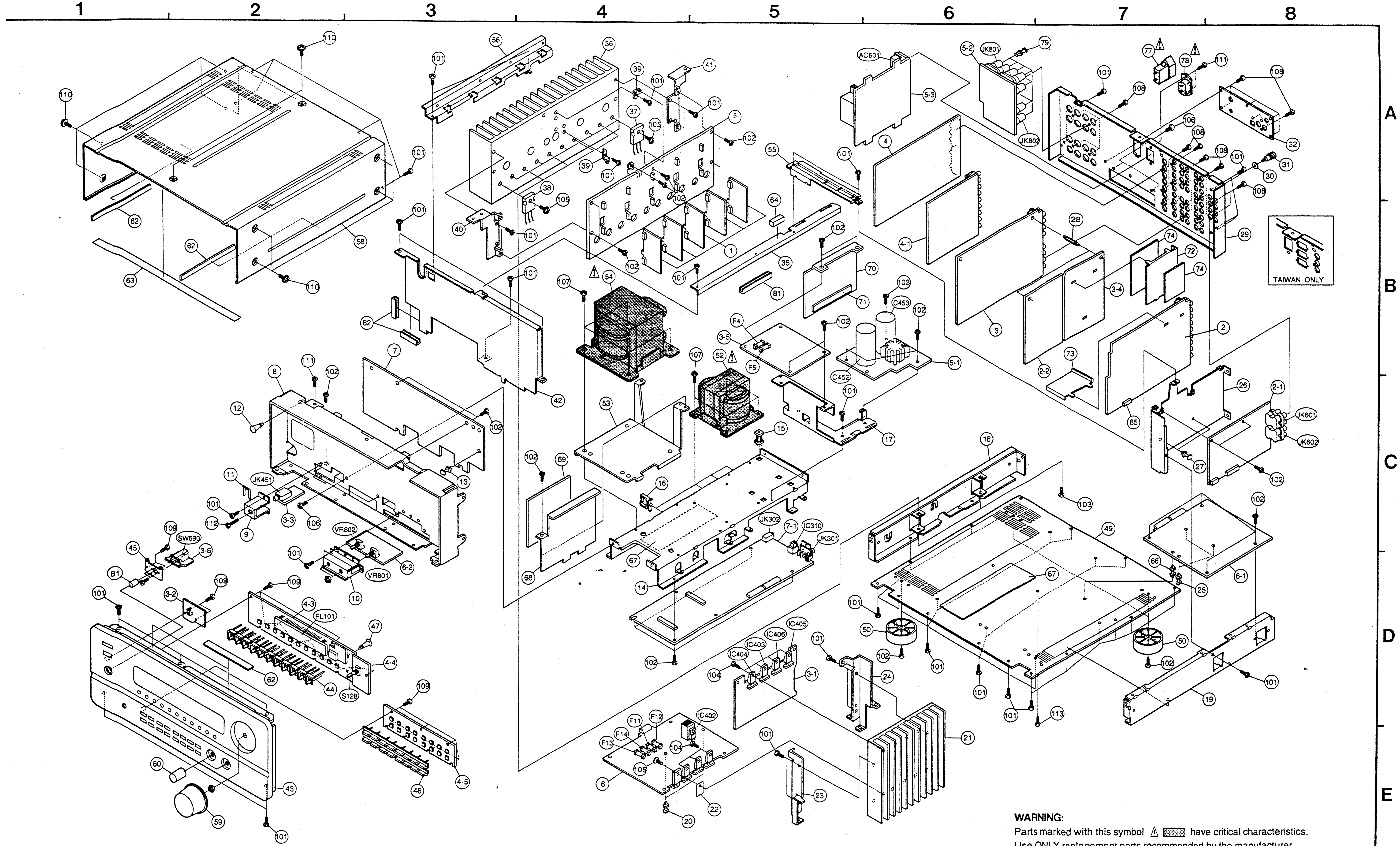
4
5. 6
7
1-6
FL+
FL-
FR+
FR-
IC503
IC504
IC601
IC604
FRONT LCH VOL.
FRONT RCH VOL.
CENTER&SUB WOOFER VOL.
SURROUND L&RCH VOL.
SW
C
SL
SR
0dB
TONE
← DEFEAT
MUTE
H/P DETECT
Lch
Rch
H/P OUTPUT
FRONT L A
FRONT L B
FRONT R A
FRONT R B
CENTER A
CENTER B
SURROUND L
SURROUND R
SPEAKER OUTPUT
FRONT L
FRONT R
SUB WOOFER
CENTER
SURROUND L
SURROUND R
PREOUT
1 DIRECT(CD)
2 DIRECT(OTHER)
3 STEREO(SP:SMALL)
4 STEREO(SP:LARGE)
5 DOLBY SURROUND
6 OTHER MODES
7 EXT. IN

EXPLODED VIEW OF CHASSIS AND CABINET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TAIWAN ONLY
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AC601
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101
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4-1
64
5-2
JK801
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JK802
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111
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JK601
JK602
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C453
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F4
3-5
F5
C452
5-1
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111
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JK451
101
112
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3-3
106
VR802
VR801
6-2
10
101
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SW690
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101
3-2
109
109
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FL101
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4-4
62
44
S128
109
4-5
46
43
60
59
101
102
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68
67
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JK302
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IC310
JK301
102
81
18
103
49
67
101
50
102
101
50
102
101
101
113
19
101
66
25
6-1
102
IC404
IC403
IC406
IC405
104
3-1
101
24
21
IC402
F11
F12
F13
F14
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105
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20
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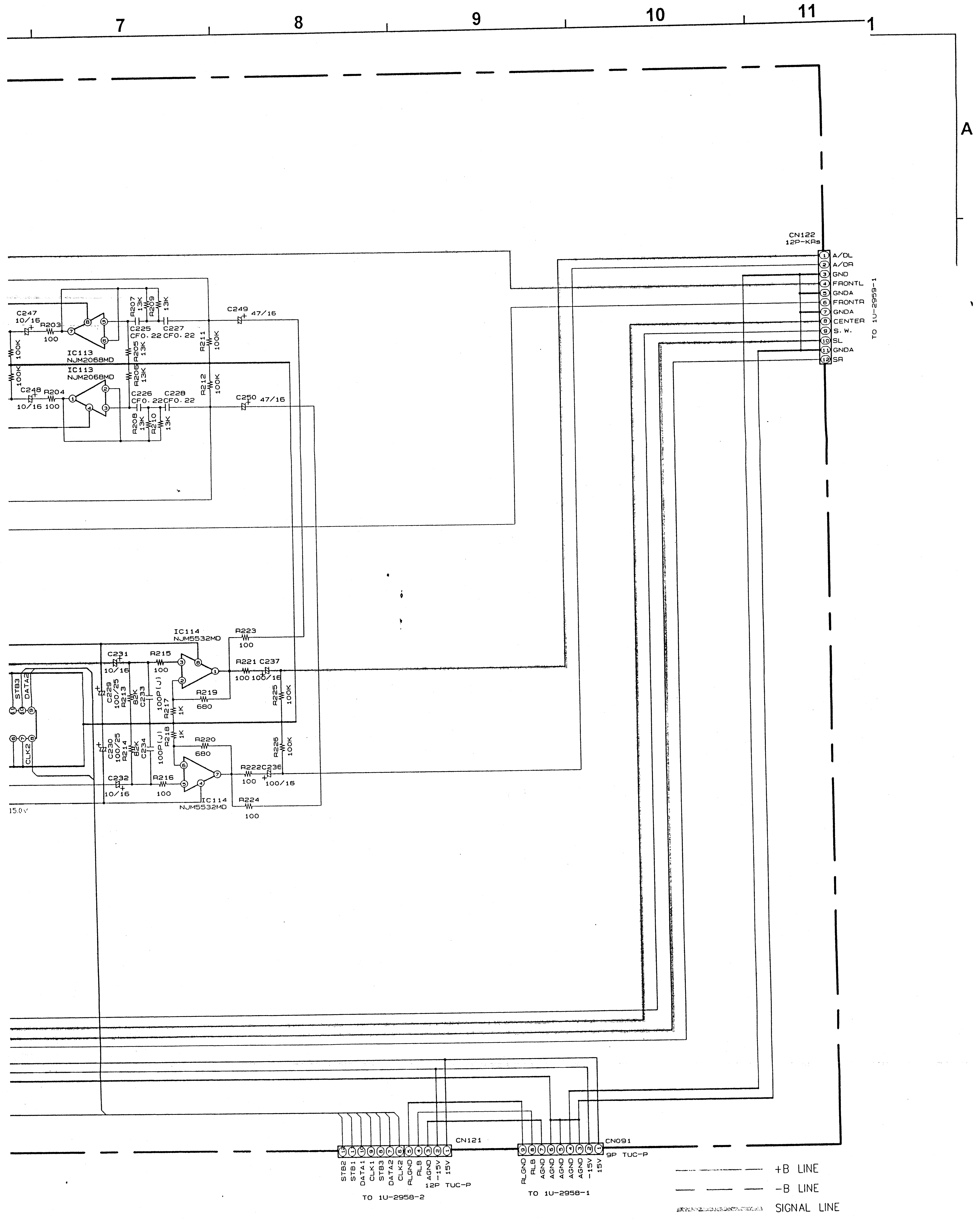
101
23

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.


7
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A
CN122
12P-KRs
A/DL
A/DR
GND
FRONTL
GNDA
FRONTR
GNDA
CENTER
S.W.
SL
GNDA
SR
TO 1U-2959-1
C247 10/16
R203 100
R207 13K
R209 13K
C225 CF0.22
C227 CF0.22
R205 13K
R206 13K
IC113 NJM2068MD
R211 100K
R212 100K
C249 47/16
C248 10/16
R204 100
C226 CF0.22
C228 CF0.22
R208 13K
R210 13K
C250 47/16
100K
IC114 NJM5532MD
R223 100
C231 10/16
R215 100
C229 100/25
R213 82K
C233 100P(J)
R217 1K
R219 680
R221 100
C237 100/16
R225 100K
C230 100/25
R214 82K
C234 100P(J)
R218 1K
R220 680
R226 100K
R222 100
C236 100/16
C232 10/16
R216 100
R224 100
STB3
DATA2
CLK2
15.0V
CN121
12P TUC-P
STB2
STB1
DATA1
CLK1
STB3
DATA2
CLK2
RLGND
RLB
AGND
-15V
15V
TO 1U-2958-2
CN091
9P TUC-P
RLGND
RLB
AGND
AGND
AGND
AGND
AGND
-15V
15V
TO 1U-2958-1
+B LINE
-B LINE
SIGNAL LINE

30 .74	*31 C185	*32 C186	*33 C197	*34 C198	*35 C209	*36 C210
00P	100P	100P	100P	100P	100P	100P
00P	100P	100P	100P	100P	100P	100P
—	—	—	—	—	—	—
—	—	—	—	—	—	—

NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

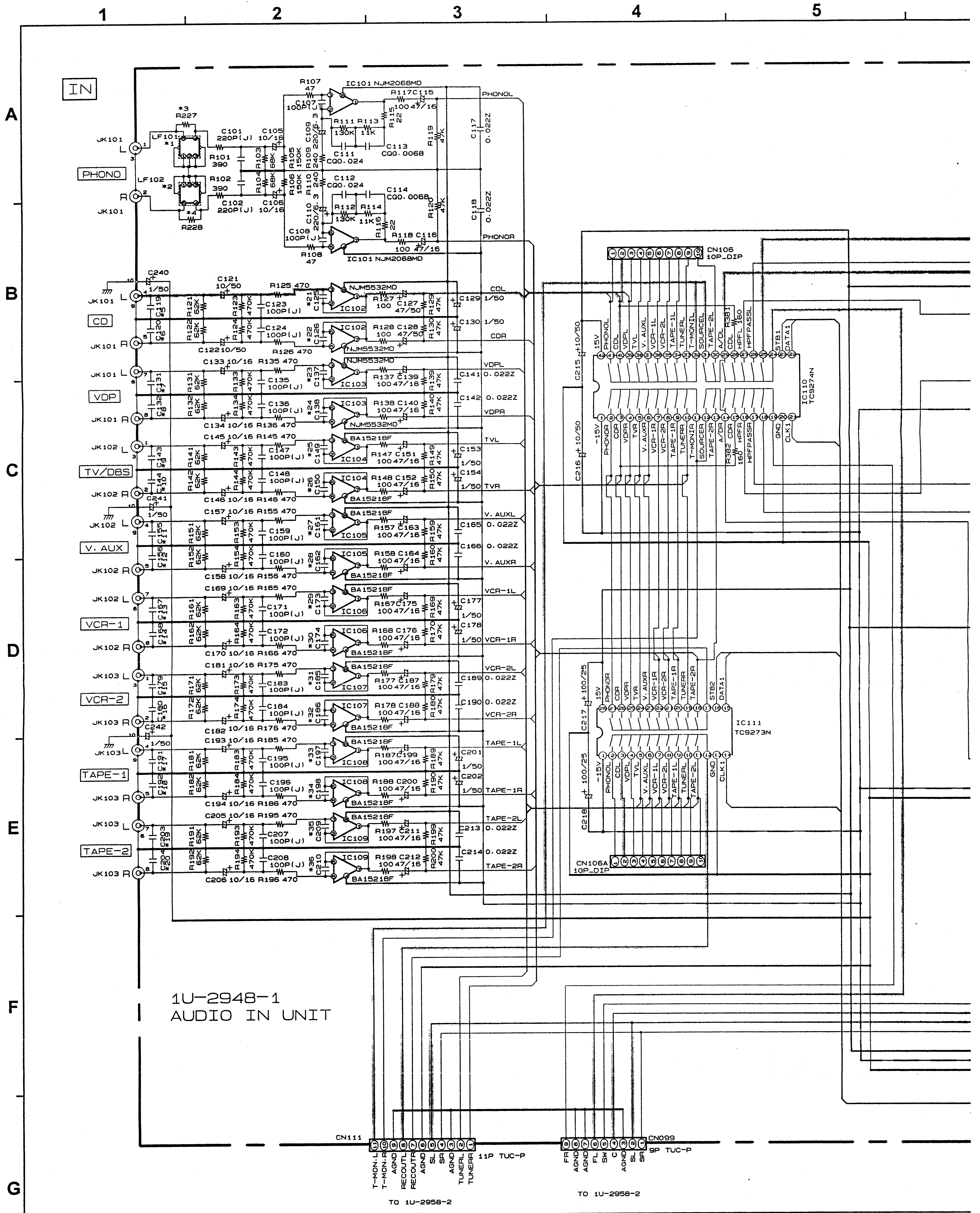
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

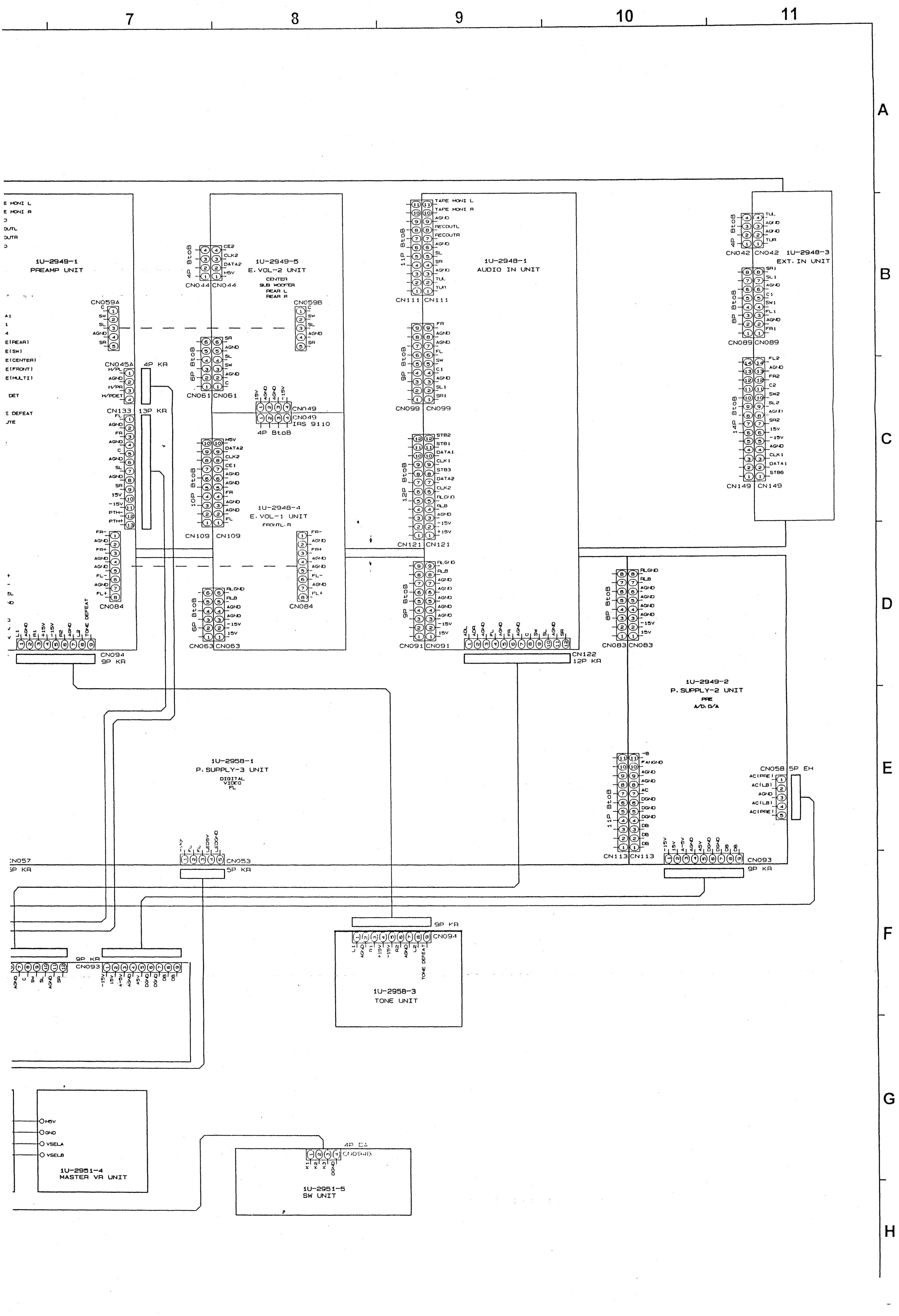
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

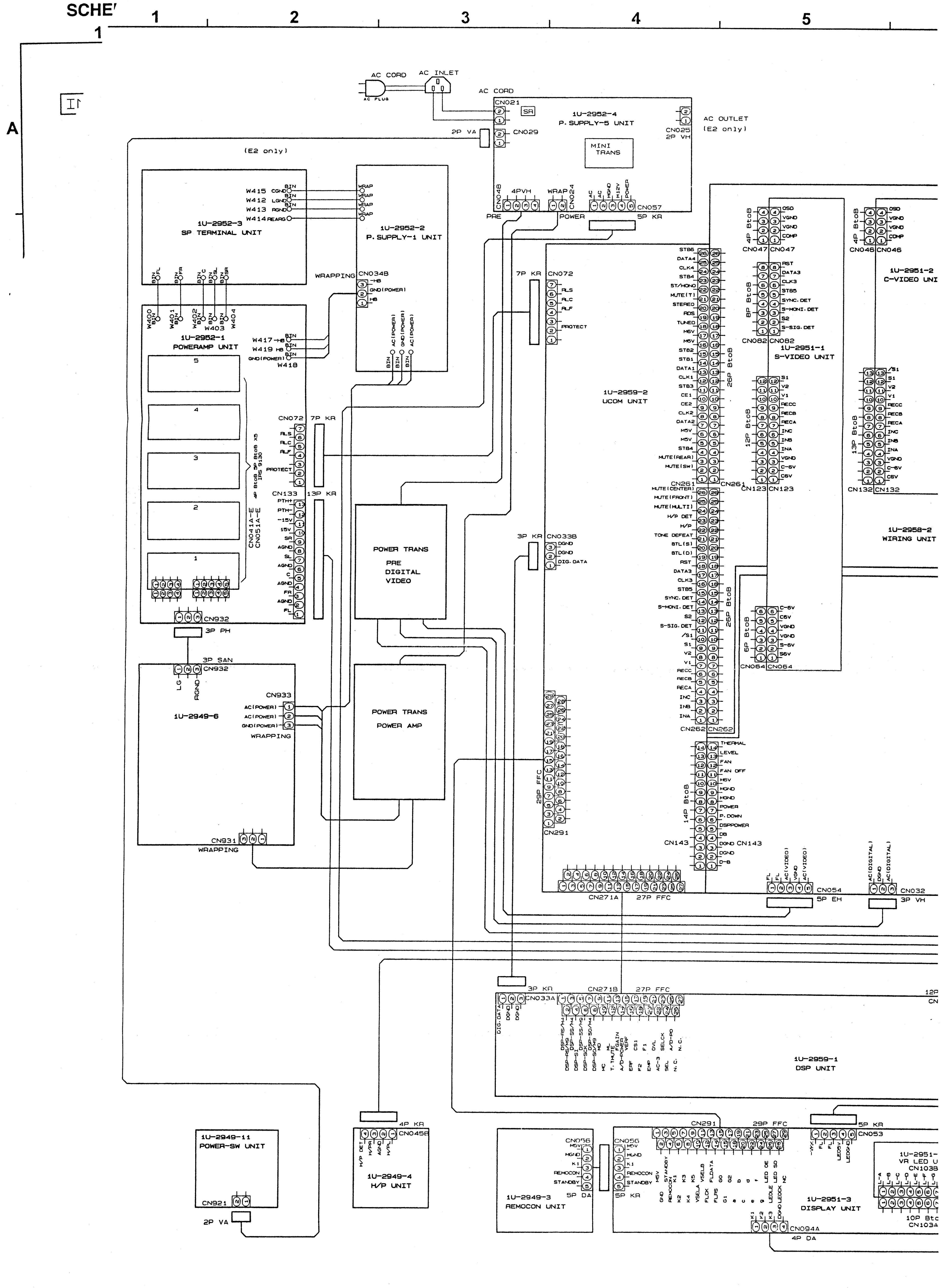
SCHEMATIC DIAGRAM (1U-2948-1 AUDIO P.W.B. UNIT)

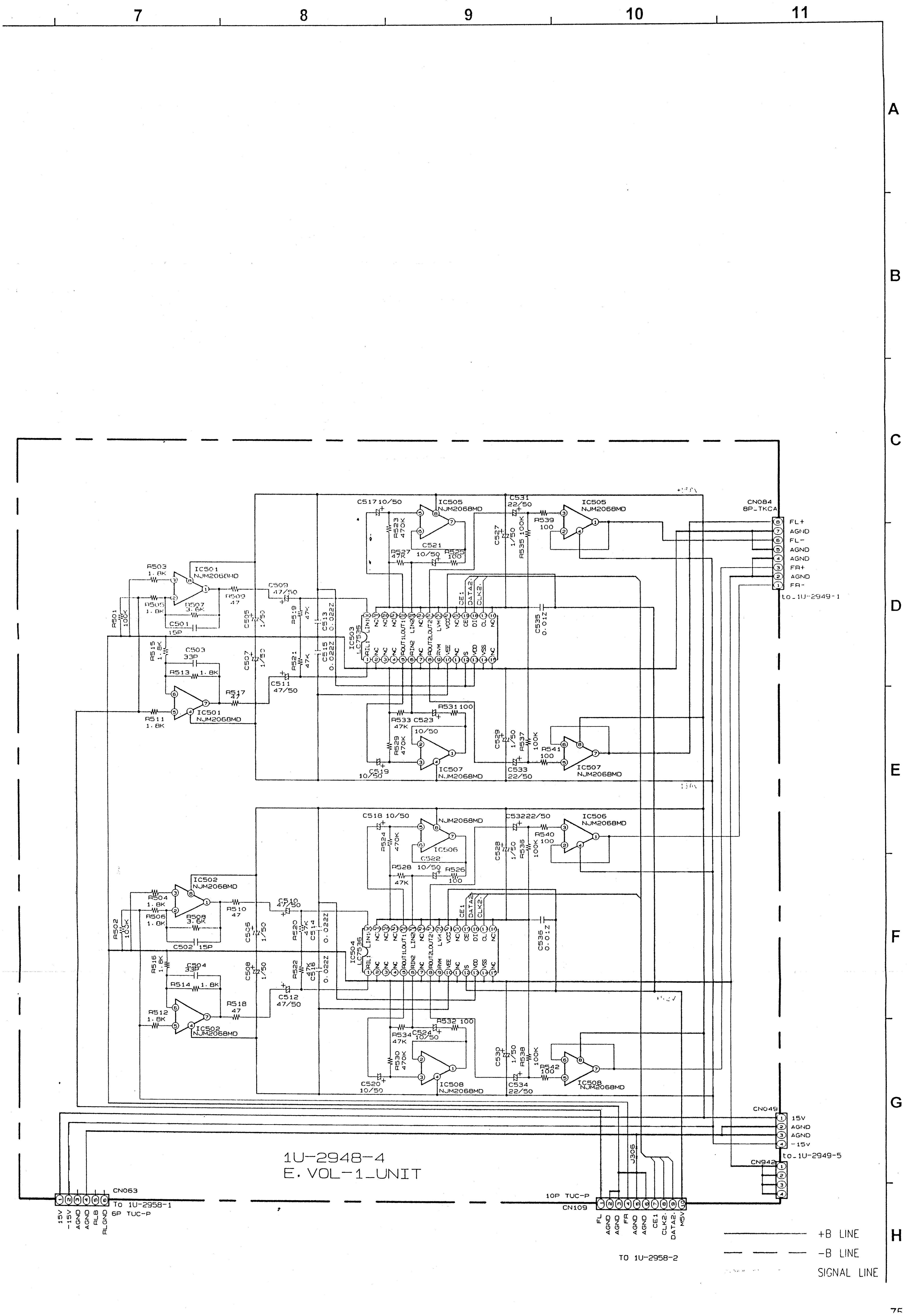

1
2
3
4
5
A
B
C
D
E
F
G
H
IN
PHONO
JK101 L
JK101 R
LF101 *1
LF102 *2
*3 R227
*4 R228
R101 390
R102 390
C101 220P(J)
C102 220P(J)
C105 10/16
C106 10/16
R103 68K
R104 68K
R105 150K
R106 150K
R107 47
R108 47
C107 100P(J)
C108 100P(J)
C109 220/6.3
C110 220/6.3
R109 240
R110 240
C111 C00.024
C112 C00.024
R111 130K
R112 130K
R113 11K
R114 11K
C113 C00.0068
C114 C00.0068
R115 22
R116 22
R117 C115 100 47/16
R118 C116 100 47/16
R119 47K
R120 47K
C117 0.022Z
C118 0.022Z
IC101 NJM2068MD
PHONOL
PHONOR
CD
VDP
TV/DBS
V. AUX
VCR-1
VCR-2
TAPE-1
TAPE-2
JK101 L
JK101 R
JK102 L
JK102 R
JK103 L
JK103 R
C240 1/50
C241 1/50
C242 1/50
C121 10/50
C122 10/50
R125 470
R126 470
C123 100P(J)
C124 100P(J)
IC102 NJM5532MD
IC103 NJM5532MD
IC104 BA15218F
IC105 BA15218F
IC106 BA15218F
IC107 BA15218F
IC108 BA15218F
IC109 BA15218F
R121 62K
R122 62K
R123 470K
R124 470K
R127 100
R128 100
C127 47/50
C128 47/50
R129 47K
R130 47K
C129 1/50
C130 1/50
CDL
CDR
VDPL
VDPR
TVL
TVR
V. AUXL
V. AUXR
VCR-1L
VCR-1R
VCR-2L
VCR-2R
TAPE-1L
TAPE-1R
TAPE-2L
TAPE-2R
C141 0.022Z
C142 0.022Z
C165 0.022Z
C166 0.022Z
C189 0.022Z
C190 0.022Z
C213 0.022Z
C214 0.022Z
CN106 10P_DIP
CN106A 10P_DIP
IC110 TC9274N
IC111 TC9273N
C215 +10/50
C216 +10/50
C217 + 100/25
C218 + 100/25
15V
-15V
PHONOL
PHONOR
SOURCEL
SOURCER
T-MONIL
T-MONIR
TUNERL
TUNERR
A/DL
A/DR
R381 160
R382 160
HPFL
HPFR
HPFPASSL
HPFPASSR
STB1
DATA1
STB2
GND
CLK1
1U-2948-1
AUDIO IN UNIT
CN111
T-MON.L
T-MON.R
AGND
RECOUTL
RECOUTR
SL
SR
TUNERL
TUNERR
11P TUC-P
TO 1U-2958-2
CN099
FR
AGND
FL
SW
C
9P TUC-P
TO 1U-2958-2

	*1 LF101	*2 LF102	*3 R227	*4 R228	*5 C119	*6 C120	*7 C131	*8 C132	*9 C143	*10 C144	*11 C155	*12 C156	*13 C167	*14 C168	*15 C179	*16 C180	*17 C191	*18 C192	*19 C203	*20 C204	*21 C125	*22 C126	*23 C137	*24 C138	*25 C149	*26 C150	*27 C161
ASIA	250uH	250uH	4.7K	4.7K	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	100P	100P	100P	100P	100P	100P	100P
EUROPE	250uH	250uH	4.7K	4.7K	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	330P	100P	100P	100P	100P	100P	100P	100P
TAIWAN R.O.C	—	—	o	o	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JAPAN	—	—	o	o	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—


7
8
9
10
11
A
B
C
D
E
F
G
H
1U-2949-1
PREAMP UNIT
CN059A
CN045A
4P KR
CN133
13P KR
CN084
CN094
9P KR
TONE DEFEAT
1U-2949-5
E. VOL-2 UNIT
CENTER
SUB WOOFER
REAR L
REAR R
CN044
4P BtoB
CN059B
CN061
6P BtoB
CN049
IRS 9110
4P BtoB
1U-2948-4
E. VOL-1 UNIT
FRONT L, R
CN109
10P BtoB
CN063
6P BtoB
1U-2948-1
AUDIO IN UNIT
CN111
11P BtoB
CN099
9P BtoB
CN121
12P BtoB
CN091
9P BtoB
CN122
12P KR
1U-2948-3
EXT. IN UNIT
CN042
4P BtoB
CN089
8P BtoB
CN149
14P BtoB
1U-2949-2
P. SUPPLY-2 UNIT
PRE
A/D, D/A
CN083
8P BtoB
CN113
11P BtoB
CN058
5P EH
CN093
9P KR
1U-2958-1
P. SUPPLY-3 UNIT
DIGITAL
VIDEO
FL
CN053
5P KR
CN057
5P KR
CN093
9P KR
1U-2958-3
TONE UNIT
CN094
9P KR
1U-2951-4
MASTER VR UNIT
M5V
GND
VSELA
VSELB
1U-2951-5
SW UNIT
CN094B
4P CL

WIRING DIAGRAM


SCHE'
1
2
3
4
5
A
AC CORD
AC PLUG
AC INLET
AC CORD
CN021
SR
1U-2952-4
P. SUPPLY-5 UNIT
MINI TRANS
AC OUTLET
(E2 only)
CN025
2P VH
2P VA
CN029
(E2 only)
CN048
4PVH
PRE
WRAP
CN024
POWER
AC
AC
MGND
M12V
POWER
CN057
5P KR
W415 CGND
W412 LGND
W413 RGND
W414 REARG
BIN
1U-2952-3
SP TERMINAL UNIT
WRAP
1U-2952-2
P. SUPPLY-1 UNIT
WRAPPING
CN034B
-H8
GND(POWER)
+H8
AC(POWER)
GND(POWER)
AC(POWER)
W400
W401
W402
W403
W404
BIN FL
BIN FR
BIN C
BIN SL
BIN SR
1U-2952-1
POWERAMP UNIT
W417 +H8
W419 H8
GND(POWER)
W418
5
4
3
2
1
CN072
7P KR
RLS
RLC
RLF
PROTECT
4P BtoB 5P BtoB X5
IRS 9130
CN041A-E
CN051A-E
CN133
13P KR
PTH+
PTH-
-15V
15V
SR
AGND
SL
AGND
C
AGND
FR
AGND
FL
CN932
3P PH
3P SAN
CN932
LG
RGND
1U-2949-6
CN933
AC(POWER)
AC(POWER)
GND(POWER)
WRAPPING
CN931
WRAPPING
POWER TRANS
PRE
DIGITAL
VIDEO
POWER TRANS
POWER AMP
7P KR
CN072
RLS
RLC
RLF
PROTECT
3P KR
CN033B
DGND
DGND
DIG. DATA
1U-2959-2
UCOM UNIT
STB6
DATA4
CLK4
STB4
ST/MONO
MUTE(T)
STEREO
RDS
TUNED
M6V
M6V
STB2
STB1
DATA1
CLK1
STB3
CE1
CE2
CLK2
DATA2
M5V
M5V
STB4
MUTE(REAR)
MUTE(SW)
CN261
26P BtoB
MUTE(CENTER)
MUTE(FRONT)
MUTE(MULTI)
H/P DET
H/P
TONE DEFEAT
BTL(S)
BTL(D)
RST
DATA3
CLK3
STB5
SYNC. DET
S-MONI. DET
S2
S-SIG. DET
/S1
S1
V2
V1
RECC
RECB
RECA
INC
INB
INA
CN262
26P BtoB
29P FFC
CN291
14P BtoB
CN143
THERMAL
LEVEL
FAN
FAN OFF
M6V
MGND
MGND
POWER
P. DOWN
DSPPOWER
DB
DGND CN143
DGND
D-B
CN271A
27P FFC
4P BtoB
CN047
OSD
VGND
VGND
COMP
8P BtoB
RST
DATA3
CLK3
STB5
SYNC. DET
S-MONI. DET
S2
S-SIG. DET
CN082
1U-2951-1
S-VIDEO UNIT
12P BtoB
S1
V2
V1
RECC
RECB
RECA
INC
INB
INA
VGND
C-6V
C6V
CN123
6P BtoB
C-6V
C6V
VGND
VGND
S-6V
S6V
CN064
CN046
1U-2951-2
C-VIDEO UNIT
13P BtoB
/S1
S1
V2
V1
RECC
RECB
RECA
INC
INB
INA
VGND
C-6V
C6V
CN132
1U-2958-2
WIRING UNIT
FL
FL
AC(VIDEO)
VGND
AC(VIDEO)
CN054
5P EH
AC(DIGITAL)
DGND
AC(DIGITAL)
CN032
3P VH
3P KR
CN033A
DIG. DATA
DGND
DGND
CN271B
27P FFC
DSP-RS/M4
DSP-RS/M9
DSP-SS/M4
DSP-SI
DSP-SS/M9
DSP-SCK
DSP-SO/M4
DSP-SO/M9
MD
MC
ML
T. THMUTE
FGAIN
A/D-POWER
VERF
ERF
CS1
F2
F1
EMP
OVL
AC-3
SELCK
SEL
A/D-PO
N.C.
N.C.
1U-2959-1
DSP UNIT
12P
CN
1U-2949-11
POWER-SW UNIT
CN921
2P VA
4P KR
CN045B
H/P DET
H/PR
AGND
H/PL
1U-2949-4
H/P UNIT
CN056
M5V
MGND
K1
REMOCON
STANDBY
1U-2949-3
REMOCON UNIT
5P DA
CN056
5P KR
CN291
29P FFC
GND
REMOCON
K2
K4
VSELA
FLCK
FLRS
G1
M5V
STANDBY
K1
K3
K5
VSELB
FLDATA
G0
G2
LED OE
LEDLE
LED SO
LEDCK
NC
K1
K2
K3
DGND
CN094A
4P DA
1U-2951-3
DISPLAY UNIT
5P KR
CN053
-VKK
FL
FL
LED5V
LEDGND
1U-2951-
VR LED U
CN103B
10P Btc
CN103A


7
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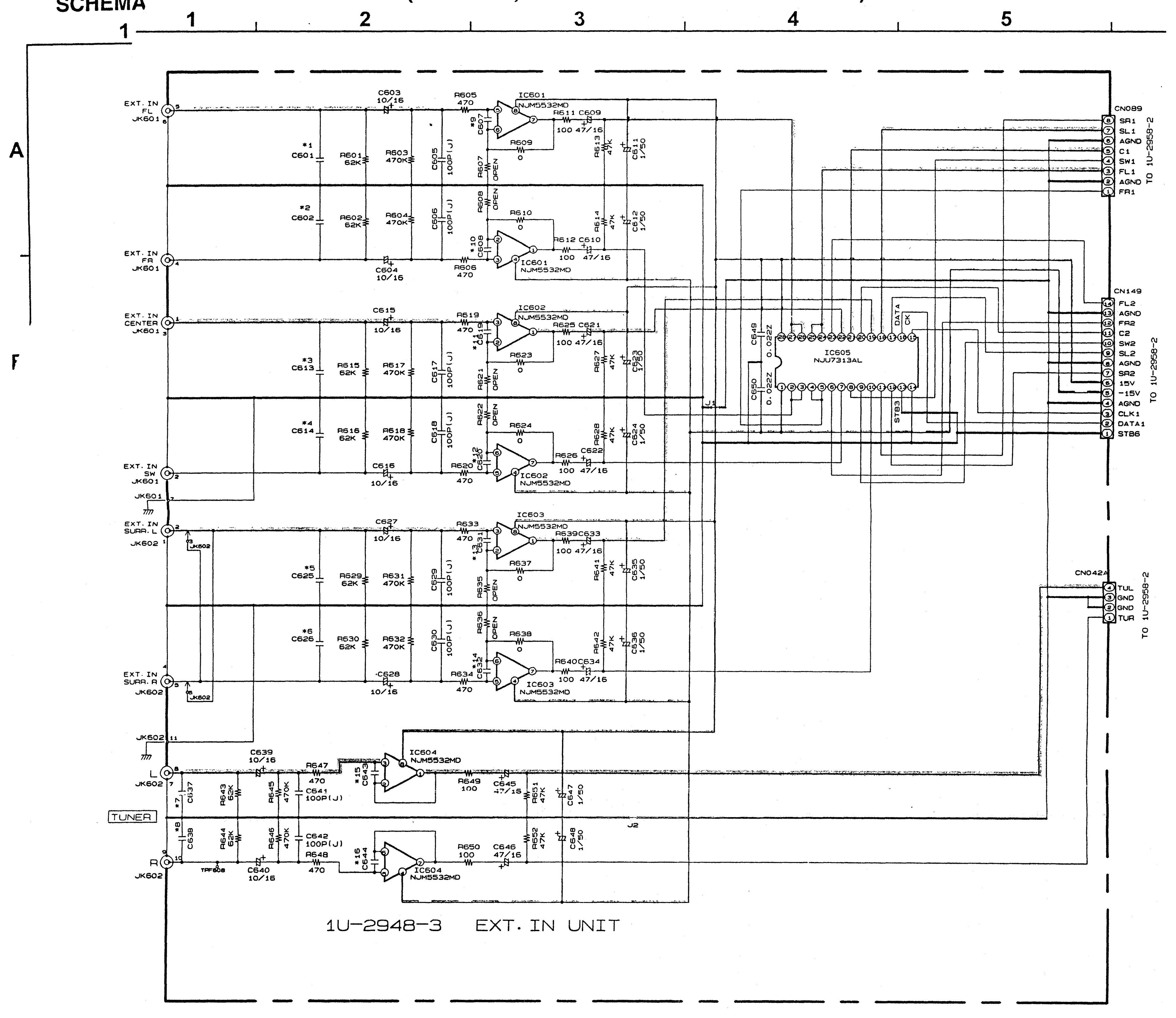
11
A
B
C
D
E
F
G
H
1U-2948-4
E. VOL-1_UNIT
CN084
8P_TKCA
FL+
AGND
FL-
AGND
AGND
FR+
AGND
FR-
to_1U-2949-1
CN049
15V
AGND
AGND
-15V
to_1U-2949-5
CN942
CN063
To 1U-2958-1
6P TUC-P
15V
-15V
AGND
AGND
RLB
RLGND
CN109
10P TUC-P
FL
AGND
AGND
FR
AGND
AGND
CE1
CLK2
DATA2
M5V
TO 1U-2958-2
J306
IC501
NJM2068MD
IC502
NJM2068MD
IC503
LC7535
IC504
LC7535
IC505
NJM2068MD
IC506
NJM2068MD
IC507
NJM2068MD
IC508
NJM2068MD
R501 100K
R502 100K
R503 1.8K
R504 1.8K
R505 1.8K
R506 1.8K
R507 3.6K
R508 3.6K
R509 47
R510 47
R511 1.8K
R512 1.8K
R513 1.8K
R514 1.8K
R515 1.8K
R516 1.8K
R517 47
R518 47
R519 47K
R520 47K
R521 47K
R522 47K
R523 470K
R524 470K
R525 100
R526 100
R527 47K
R528 47K
R529 470K
R530 470K
R531 100
R532 100
R533 47K
R534 47K
R535 100K
R536 100K
R537 100K
R538 100K
R539 100
R540 100
R541 100
R542 100
C501 15P
C502 15P
C503 33P
C504 33P
C505 1/50
C506 1/50
C507 1/50
C508 1/50
C509 47/50
C510 47/50
C511 47/50
C512 47/50
C513 0.022Z
C514 0.022Z
C515 0.022Z
C516 0.022Z
C517 10/50
C518 10/50
C519 10/50
C520 10/50
C521 10/50
C522 10/50
C523 10/50
C524 10/50
C527 1/50
C528 1/50
C529 1/50
C530 1/50
C531 22/50
C532 22/50
C533 22/50
C534 22/50
C535 0.01Z
C536 0.01Z
LIN1
RIL1
NC
ROUT1
LOUT1
LIN2
RIN2
ROUT2
LOUT2
LVM
RVM
VCC
VEE
CE
S
DI
VDD
CL
VSS
+B LINE
-B LINE
SIGNAL LINE

SCHEMA

SCHEMATIC DIAGRAM (1U-2948-3, 4 EXT. IN/VOLUME-1 P.W.B. UNIT)


1
2
3
4
5
A
F
EXT. IN FL JK601
EXT. IN FR JK601
EXT. IN CENTER JK601
EXT. IN SW JK601
JK601
EXT. IN SURR. L JK602
EXT. IN SURR. R JK602
JK602
L JK602
TUNER
R JK602
C603 10/16
R605 470
IC601 NJM5532MD
R611 C609 100 47/16
R613 47K
C611 1/50
*1 C601
R601 62K
R603 470K
C605 100P(J)
R607 OPEN
R609 0
*2 C602
R602 62K
R604 470K
C606 100P(J)
R608 OPEN
R610
*10 C608
R612 C610 100 47/16
R614 47K
C612 1/50
C604 10/16
R606 470
C615 10/16
R619 470
IC602 NJM5532MD
R625 C621 100 47/16
*11 C619
R623 0
*3 C613
R615 62K
R617 470K
C617 100P(J)
R621 OPEN
R627 47K
C623 1/50
*4 C614
R616 62K
R618 470K
C618 100P(J)
R622 OPEN
R624 0
*12 C620
R626 C622 100 47/16
R628 47K
C624 1/50
C616 10/16
R620 470
C627 10/16
R633 470
IC603 NJM5532MD
R639 C633 100 47/16
*13 C631
R637 0
*5 C625
R629 62K
R631 470K
C629 100P(J)
R635 OPEN
R641 47K
C635 1/50
*6 C626
R630 62K
R632 470K
C630 100P(J)
R636 OPEN
R638 0
*14 C632
R640 C634 100 47/16
R642 47K
C636 1/50
C628 10/16
R634 470
C639 10/16
R647 470
*15 C643
IC604 NJM5532MD
R649 100
C645 47/16
R651 47K
C647 1/50
*7 C637
R643 62K
R645 470K
C641 100P(J)
*8 C638
R644 62K
R646 470K
C642 100P(J)
R648 470
*16 C644
R650 100
C646 47/16
R652 47K
C648 1/50
C640 10/16
TPF608
J1
J2
C649 0.022Z
C650 0.022Z
IC605 NJU7313AL
DATA
CK
STB3
CN089
SR1
SL1
AGND
C1
SW1
FL1
AGND
FR1
TO 1U-2958-2
CN149
FL2
AGND
FR2
C2
SW2
SL2
AGND
SR2
15V
-15V
AGND
CLK1
DATA1
STB6
TO 1U-2958-2
CN042A
TUL
GND
GND
TUR
TO 1U-2958-2
1U-2948-3 EXT. IN UNIT

	*1 C601	*2 C602	*3 C613	*4 C614	*5 C625	*6 C626	*7 C637	*8 C638	*9 C607	*10 C608	*11 C619	*12 C620	*13 C631	*14 C632	*15 C643	*16 C644
ASIA	330P	330P	330P	330P	330P	330P	330P	330P	100P	100P	100P	100P	100P	100P	100P	100P
EUROPE	330P	330P	330P	330P	330P	330P	330P	330P	100P	100P	100P	100P	100P	100P	100P	100P
TAIWAN R.O.C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JAPAN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

——— +B LINE
— — — -B LINE
SIGNAL

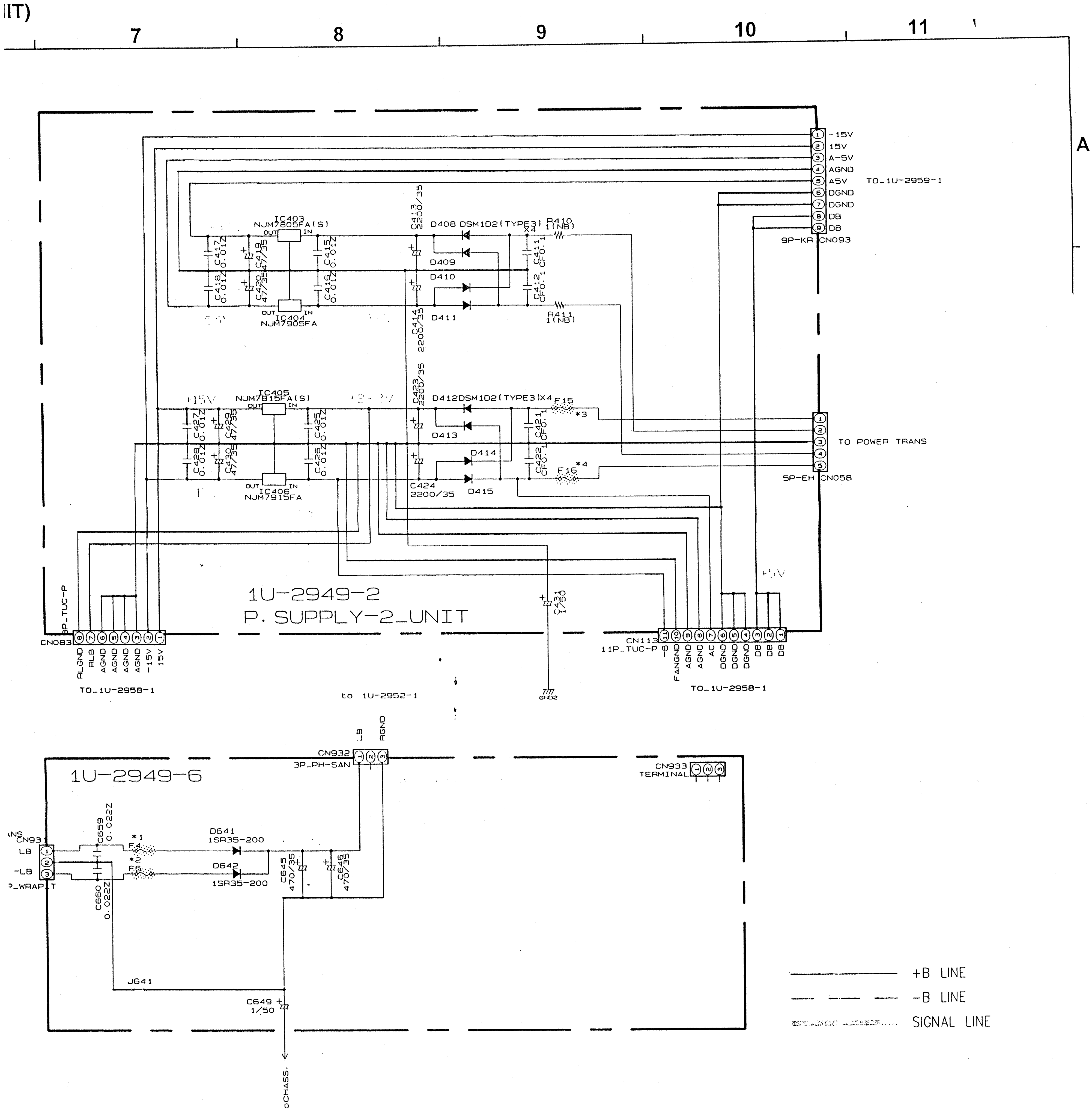
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

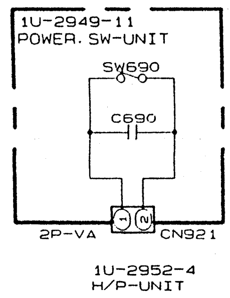
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

IT)


7
8
9
10
11
A
1U-2949-2
P. SUPPLY-2_UNIT
CN093
9P-KR
-15V
15V
A-5V
AGND
A5V
DGND
DGND
DB
DB
TO_1U-2959-1
IC403
NJM7805FA(S)
IC404
NJM7905FA
IC405
NJM7815FA(S)
IC406
NJM7915FA
C413 2200/35
C414 2200/35
C423 2200/35
C424 2200/35
C415 0.012
C416 0.012
C417 0.012
C418 0.012
C419 47/35
C420 47/35
C425 0.012
C426 0.012
C427 0.012
C428 0.012
C429 47/35
C430 47/35
C411 CF0.1
C412 CF0.1
C421 CF0.1
C422 CF0.1
D408 DSM1D2(TYPE3)X4
D409
D410
D411
D412DSM1D2(TYPE3)X4
D413
D414
D415
R410 1(NB)
R411 1(NB)
F15 *3
F16 *4
CN058
5P-EH
TO POWER TRANS
C431 1/50
GND2
CN083
8P_TUC-P
RLGND
RLB
AGND
AGND
AGND
AGND
-15V
15V
TO_1U-2958-1
to 1U-2952-1
CN113
11P_TUC-P
-B
FANGND
AGND
AGND
AC
DGND
DGND
DGND
DB
DB
DB
TO_1U-2958-1
1U-2949-6
CN932
3P_PH-SAN
LB
RGND
CN933
TERMINAL
CN93
LB
-LB
P_WRAP
C659 0.022Z
C660 0.022Z
*1 F4
*2 F5
D641 1SR35-200
D642 1SR35-200
C645 470/35
C646 470/35
J641
C649 1/50
toCHASS.
+B LINE
-B LINE
SIGNAL LINE


1U-2949-11
POWER. SW-UNIT
SW690
C690
2P-VA
CN921
1U-2952-4
H/P-UNIT

	*1 F4	*2 F5	*3 F15	*4 F16
ASIA	1A/250V 2061015029	1A/250V 2061015029	2A/250V 2061015061	2A/250V 2061015061
EUROPE	1A/250V 2061015029	1A/250V 2061015029	2A/250V 2061015061	2A/250V 2061015061
TAIWAN R. O. C	1A/125V 2061039034	1A/125V 2061039034	2A/125V 2061039063	2A/125V 2061039063
JAPAN	1A/125V 2061053007	1A/125V 2061053007	2A/125V 2061035041	2A/125V 2061035041

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

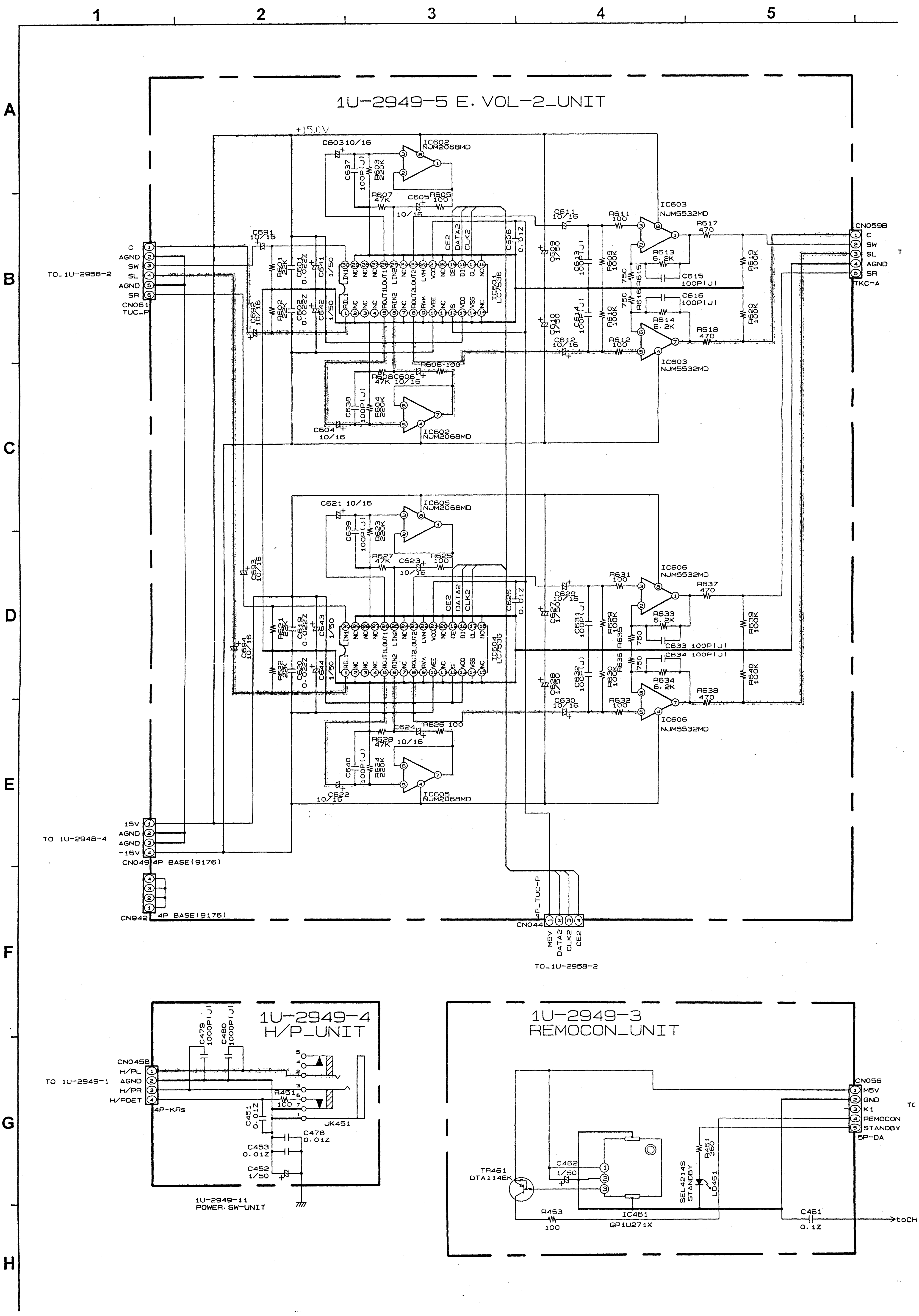
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

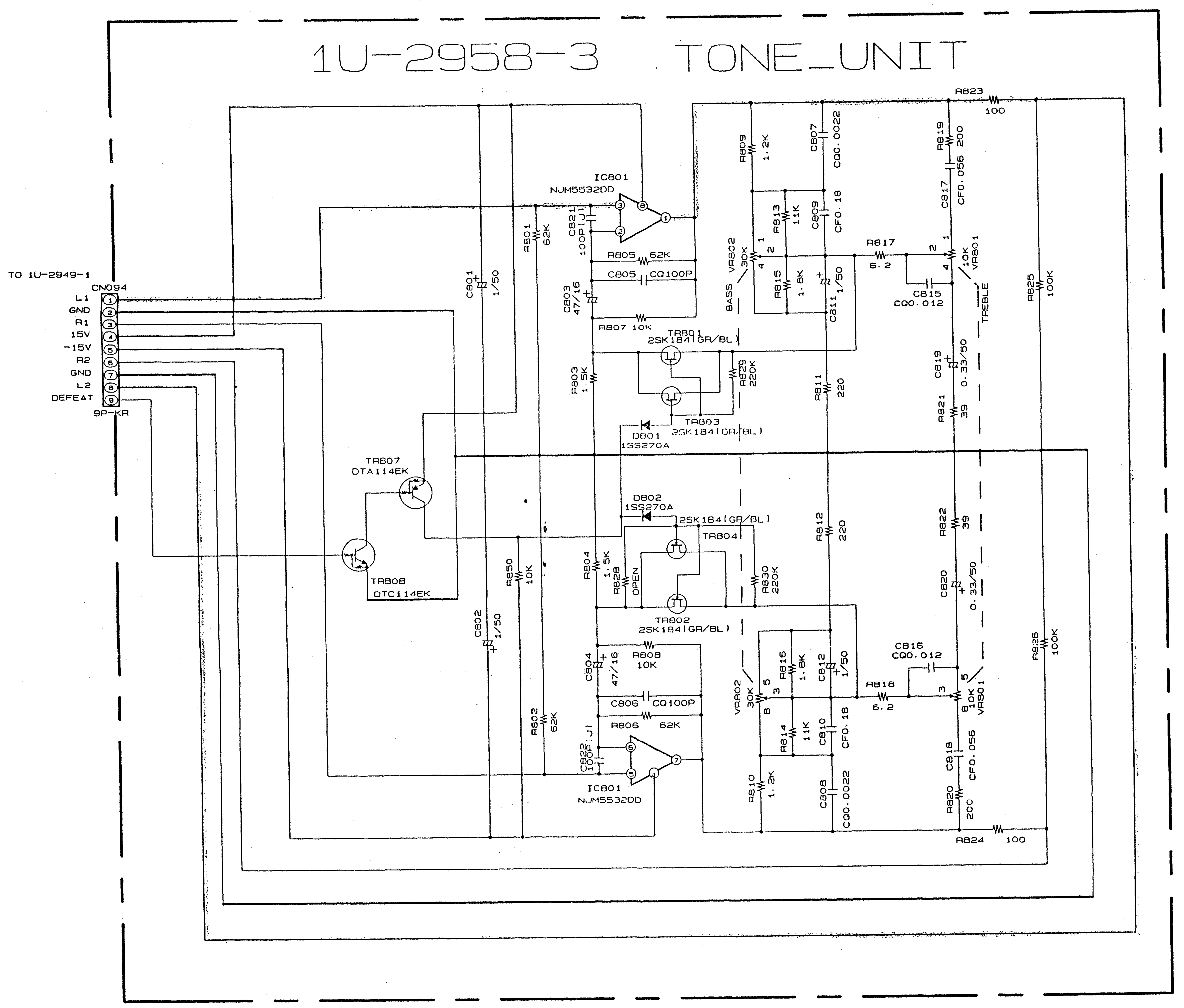
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAM (1U-2949-2 ~ 6, 11 POWER SUPPLY/REMOCON/HEAD PHONE/VOLUME-2/POWER S


1
2
3
4
5
A
B
C
D
E
F
G
H
1U-2949-5 E. VOL-2_UNIT
+15.0V
TO_1U-2958-2
CN061
TUC_P
C
AGND
SW
SL
AGND
SR
CN059B
TKC-A
IC601
LC7536
IC604
LC7536
IC602
NJM2068MD
IC605
NJM2068MD
IC603
NJM5532MD
IC606
NJM5532MD
RIL1
LIN1
NC
ROUT1
LOUT1
RIN2
LIN2
ROUT2
LOUT2
RVM
LVM
VEE
VCC
S
CE
VDD
DI
VSS
CL
CE2
DATA2
CLK2
C601 0.022Z
C602 0.022Z
C603 10/16
C604 10/16
C605 10/16
C606 10/16
C608 0.01Z
C609 1/50
C610 1/50
C611 10/16
C612 10/16
C613 100P(J)
C614 100P(J)
C615 100P(J)
C616 100P(J)
C637 100P(J)
C638 100P(J)
C641 1/50
C642 1/50
C691 10/16
C692 10/16
R601 22K
R602 22K
R603 220K
R604 220K
R605 100
R606 100
R607 47K
R608 47K
R609 100K
R610 100K
R611 100
R612 100
R613 6.2K
R614 6.2K
R615 750
R616 750
R617 470
R618 470
R619 100K
R620 100K
C619 0.022Z
C620 0.022Z
C621 10/16
C622 10/16
C623 10/16
C624 10/16
C626 0.01Z
C627 1/50
C628 1/50
C629 10/16
C630 10/16
C631 100P(J)
C632 100P(J)
C633 100P(J)
C634 100P(J)
C639 100P(J)
C640 100P(J)
C643 1/50
C644 1/50
C693 10/16
C694 10/16
R621 22K
R622 22K
R623 220K
R624 220K
R625 100
R626 100
R627 47K
R628 47K
R629 100K
R630 100K
R631 100
R632 100
R633 6.2K
R634 6.2K
R635 750
R636 750
R637 470
R638 470
R639 100K
R640 100K
TO 1U-2948-4
15V
AGND
AGND
-15V
CN049 4P BASE(9176)
CN942 4P BASE(9176)
4P_TUC-P
CN044
M5V
DATA2
CLK2
CE2
TO_1U-2958-2
1U-2949-4
H/P_UNIT
TO 1U-2949-1
CN045B
H/PL
AGND
H/PR
H/PDET
4P-KRs
C479 1000P(J)
C480 1000P(J)
R451 100
C451 0.01Z
C478 0.01Z
C453 0.01Z
C452 1/50
JK451
1U-2949-11
POWER. SW-UNIT
1U-2949-3
REMOCON_UNIT
TR461
DTA114EK
C462 1/50
R463 100
IC461
GP1U271X
SEL4214S
STANDBY
LD461
R461 360
C461 0.1Z
CN056
M5V
GND
K1
REMOCON
STANDBY
5P-DA
toCH
T
TC



1U-2958-3 TONE_UNIT
TO 1U-2949-1
CN094
L1
GND
R1
15V
-15V
R2
GND
L2
DEFEAT
9P-KR
IC801
NJM5532DD
R801 62K
R802 62K
C801 1/50
C802 1/50
R850 10K
C821 100P(J)
C822 100P(J)
R805 62K
R806 62K
C805 CQ100P
C806 CQ100P
C803 47/16
C804 47/16
R807 10K
R808 10K
R803 1.5K
R804 1.5K
R828 OPEN
TR801 2SK184(GR/BL)
TR802 2SK184(GR/BL)
TR803 2SK184(GR/BL)
TR804 2SK184(GR/BL)
R829 220K
R830 220K
D801 1SS270A
D802 1SS270A
TR807 DTA114EK
TR808 DTC114EK
VR802 30K BASS
VR801 10K TREBLE
R809 1.2K
R810 1.2K
R813 11K
R814 11K
R815 1.8K
R816 1.8K
C807 CQ0.0022
C808 CQ0.0022
C809 CF0.18
C810 CF0.18
C811 1/50
C812 1/50
R811 220
R812 220
R817 6.2
R818 6.2
C815 CQ0.012
C816 CQ0.012
C817 CF0.056
C818 CF0.056
R819 200
R820 200
C819 0.33/50
C820 0.33/50
R821 39
R822 39
R823 100
R824 100
R825 100K
R826 100K

	*1 F11	*2 F12	*3 F13	*4 F16
ASIA	2A/250V 2061015061	2A/250V 2061015061	4A/250V 2061015087	4A/250V 2061015087
EUROPE	2A/250V 2061015061	2A/250V 2061015061	4A/250V 2061015087	4A/250V 2061015087
TAIWAN R. O. C	2A/125V 2061039063	2A/125V 2061039063	4A/125V 2061039092	4A/125V 2061039092
JAPAN	2A/125V 2061035041	2A/125V 2061035041	4A/125V 2061035070	4A/125V 2061035070

——— +B LINE

— - — -B LINE

▨ SIGNAL LINE

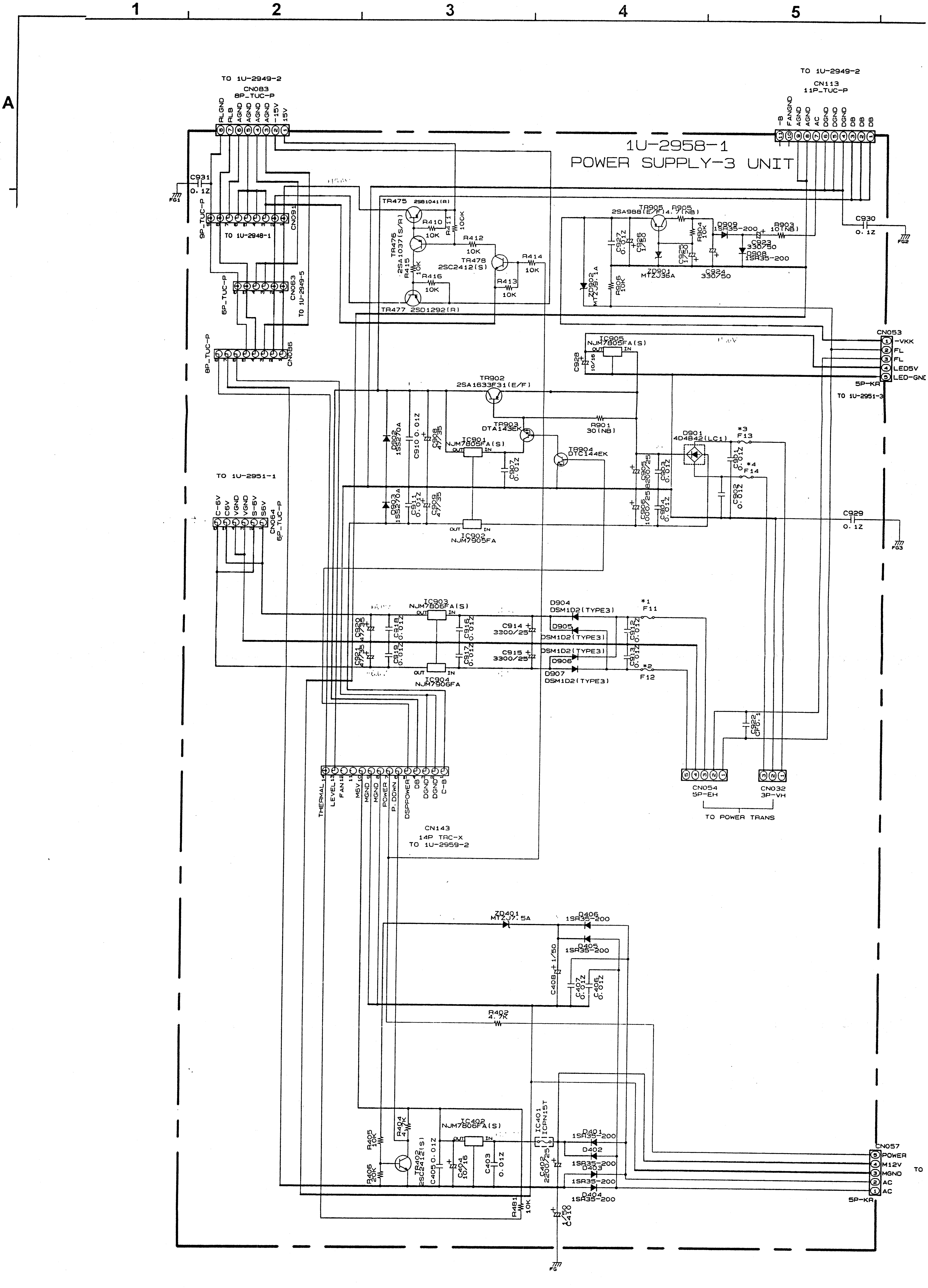
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

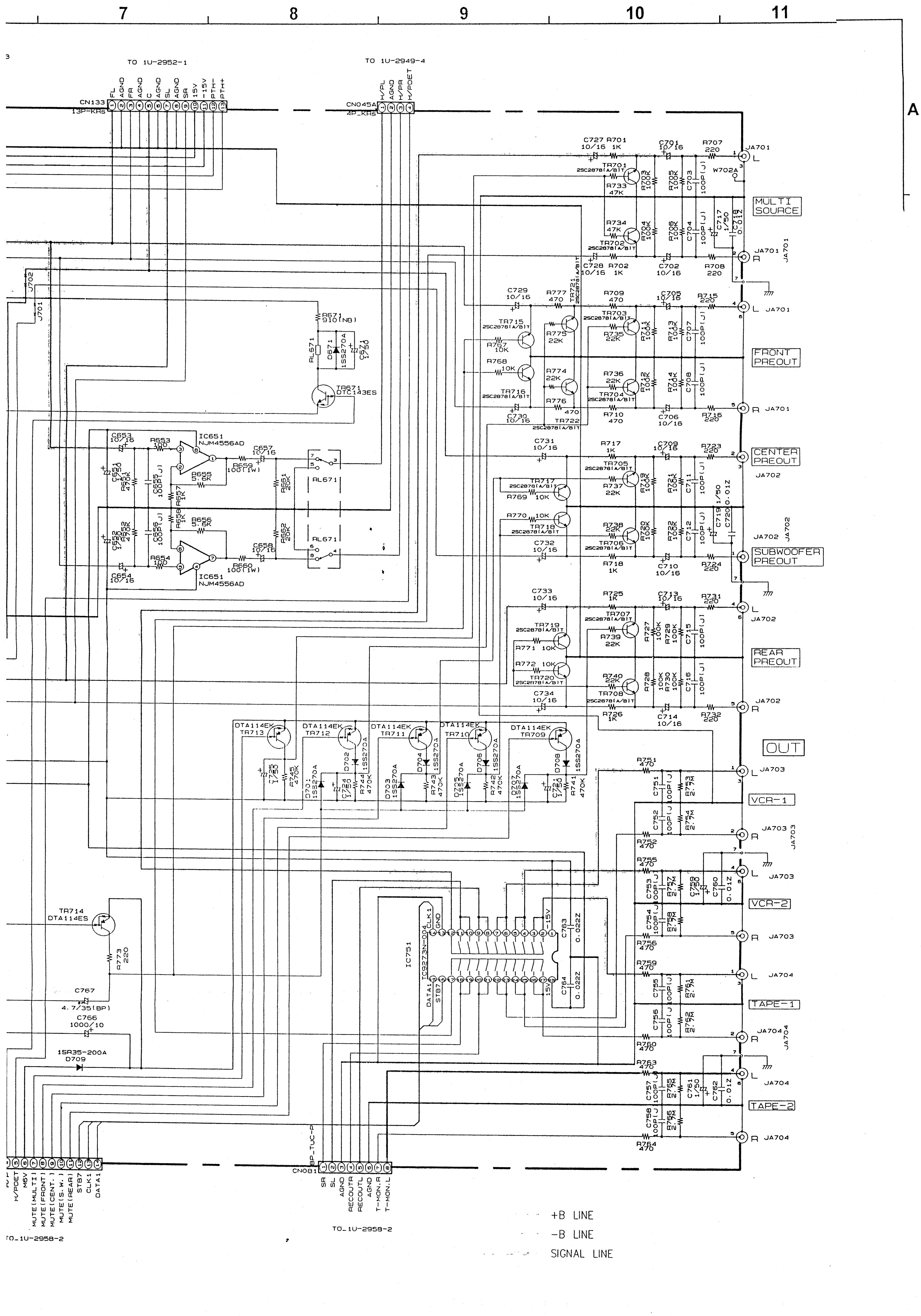
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

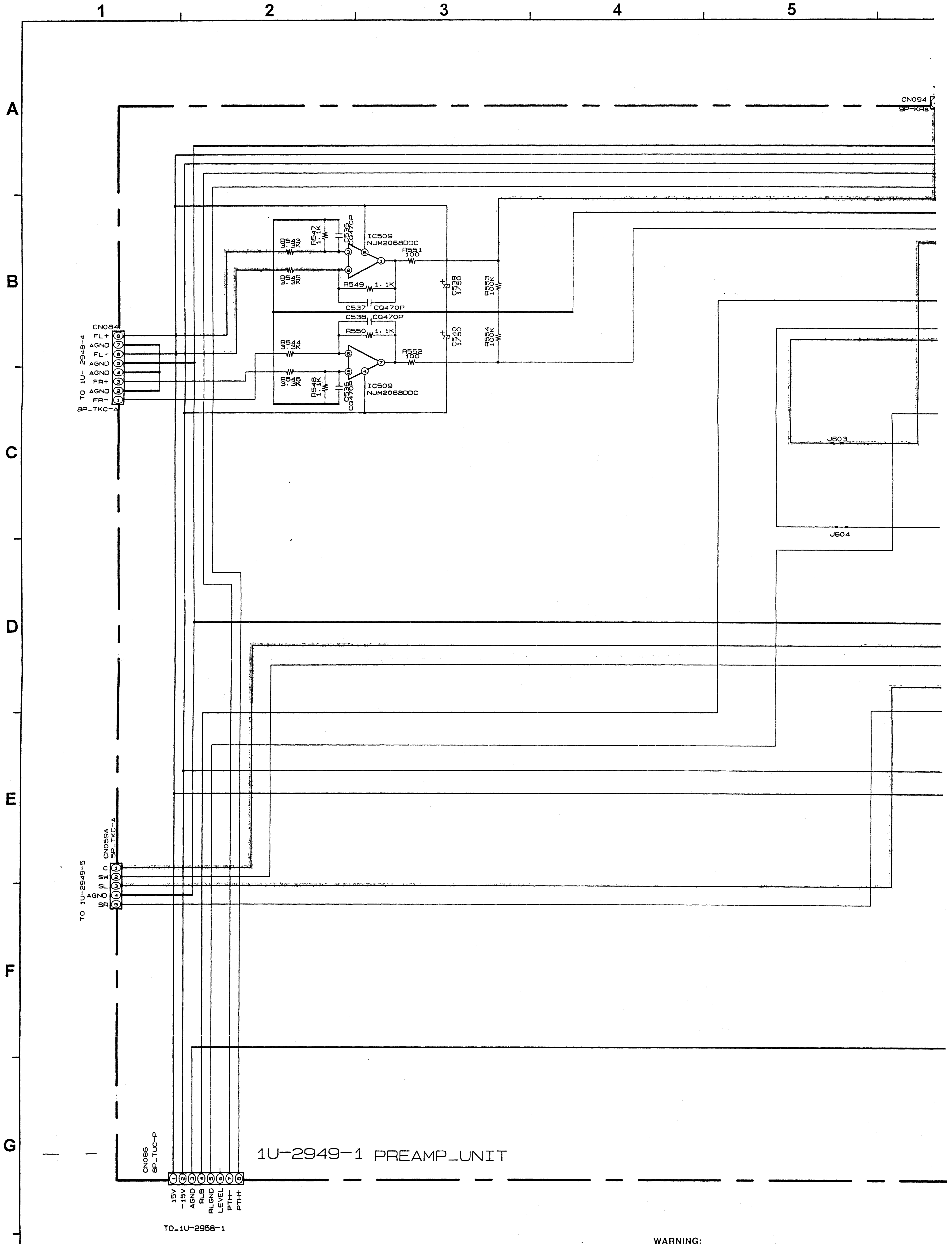
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAM (1U-2958-1, 3 POWER SUPPLY-3/TONE-2 P.W.B. UNIT)


1
2
3
4
5
A
1U-2958-1
POWER SUPPLY-3 UNIT
TO 1U-2949-2
CN083
8P_TUC-P
RLGND
RLB
AGND
AGND
AGND
AGND
-15V
15V
C931
0.1Z
FG1
9P_TUC-P
CN091
TO 1U-2948-1
6P_TUC-P
CN063
TO 1U-2949-5
8P_TUC-P
CN086
TR475 2SB1041(R)
R410 10K
R411 10K
TR476 2SA1037(S/R)
R412 10K
TR478 2SC2412(S)
R414 10K
R415 10K
R416 10K
R413 10K
TR477 2SD1292(R)
TO 1U-2949-2
CN113
11P_TUC-P
-B
FANGND
AGND
AGND
AC
DGND
DGND
DGND
DB
DB
DB
TR905 2SA988(E/F)
R905 4.7(NB)
R904 10K
D909 1SR35-200
R903 10(NB)
C923 330/50
D908 1SR35-200
C927 0.01Z
C926 1/50
C925 1/50
ZD901 MTZJ36A
C924 330/50
ZD902 MTZJ9.1A
R906 10K
C930 0.1Z
FG2
CN053
-VKK
FL
FL
LED5V
LED-GND
5P-KR
TO 1U-2951-3
IC905 NJM7805FA(S)
OUT
IN
C928 10/16
TR902 2SA1633F31(E/F)
D902 1SS270A
C910 0.01Z
C908 47/35
IC901 NJM7805FA(S)
TR903 DTA143EK
C907 0.01Z
R901 30(NB)
TR904 DTC144EK
D901 4D4B42(LC1)
*3 F13
C901 0.01Z
*4 F14
C905 8200/25
C903 0.01Z
C906 1000/25
C904 0.01Z
C902 0.01Z
C929 0.1Z
FG3
D903 1SS270A
C911 0.01Z
C909 47/35
IC902 NJM7905FA
TO 1U-2951-1
C-6V
C6V
VGND
VGND
S-6V
S6V
CN064
6P_TUC-P
IC903 NJM7806FA(S)
C920 47/35
C918 0.01Z
C916 0.01Z
C914 3300/25
D904 DSM1D2(TYPE3)
D905 DSM1D2(TYPE3)
*1 F11
C912 0.01Z
C921 47/35
C919 0.01Z
C917 0.01Z
C915 3300/25
D906 DSM1D2(TYPE3)
D907 DSM1D2(TYPE3)
C913 0.01Z
*2 F12
IC904 NJM7906FA
C922 CF0.1
CN054
5P-EH
CN032
3P-VH
TO POWER TRANS
THERMAL 14
LEVEL 13
FAN 12
11
M6V 10
MGND 9
MGND 8
POWER 7
P. DOWN 6
DSPPOWER 5
DB 4
DGND 3
DGND 2
C-B 1
CN143
14P TRC-X
TO 1U-2959-2
ZD401 MTZJ7.5A
D406 1SR35-200
D405 1SR35-200
C408 1/50
C407 0.01Z
C406 0.01Z
R402 4.7K
R404 4.7K
R405 10K
R406 20K
TR402 2SC2412(S)
C405 0.01Z
IC402 NJM7806FA(S)
C404 10/16
C403 0.01Z
IC401 ICPN15T
C402 2200/25
D401 1SR35-200
D402
D403 1SR35-200
D404 1SR35-200
R481 10K
C410 1/50
FG
CN057
POWER
M12V
MGND
AC
AC
5P-KR
TO


7
8
9
10
11
A
TO 1U-2952-1
FL
AGND
FR
AGND
C
AGND
SL
AGND
SR
15V
-15V
PTH-
PTH+
CN133
13P-KHS
TO 1U-2949-4
H/PL
AGND
H/PR
H/PDET
CN045A
4P_KHS
J702
J701
C727 R701
10/16 1K
C701
10/16
R707
220
JA701
L
W702A
TR701
2SC2878(A/B)T
R733
47K
R703
10K
R705
100K
C703
100P(J)
MULTI
SOURCE
R734
47K
R704
10K
R706
100K
C704
100P(J)
C717
1/50
C718
0.012
TR702
2SC2878(A/B)T
C728 R702
10/16 1K
C702
10/16
R708
220
R
C729
10/16
R777
470
TR721
2SC2878(A/B)T
R709
470
C705
10/16
R715
220
TR703
2SC2878(A/B)T
R735
22K
R711
10K
R713
100K
C707
100P(J)
TR715
2SC2878(A/B)T
R767
10K
R775
22K
FRONT
PREOUT
R768
10K
R774
22K
R736
22K
R712
10K
R714
100K
C708
100P(J)
TR716
2SC2878(A/B)T
R776
470
TR704
2SC2878(A/B)T
C730
10/16
TR722
2SC2878(A/B)T
R710
470
C706
10/16
R716
220
R671
910(NB)
RL671
D671
1SS270A
C671
1/50
TR671
DTC143ES
C653
10/16
R653
100
IC651
NJM4556AD
C657
10/16
R659
100(1W)
C651
1/50
R651
470K
C655
100P(J)
R657
1K
R655
5.6K
R661
20K
RL671
C652
1/50
R652
470K
C656
100P(J)
R658
1K
R656
5.6K
R662
20K
C658
10/16
R654
100
R660
100(1W)
C654
10/16
IC651
NJM4556AD
C731
10/16
R717
1K
C709
10/16
R723
220
CENTER
PREOUT
JA702
TR705
2SC2878(A/B)T
TR717
2SC2878(A/B)T
R769
10K
R737
22K
R719
10K
R721
100K
C711
100P(J)
C719
1/50
C720
0.01Z
R770
10K
TR718
2SC2878(A/B)T
R738
22K
R720
10K
R722
100K
C712
100P(J)
C732
10/16
TR706
2SC2878(A/B)T
R718
1K
C710
10/16
R724
220
SUBWOOFER
PREOUT
C733
10/16
R725
1K
C713
10/16
R731
220
TR707
2SC2878(A/B)T
TR719
2SC2878(A/B)T
R739
22K
R727
100K
R729
10K
C715
100P(J)
R771
10K
REAR
PREOUT
R772
10K
TR720
2SC2878(A/B)T
R740
22K
R728
100K
R730
10K
C716
100P(J)
C734
10/16
TR708
2SC2878(A/B)T
R726
1K
C714
10/16
R732
220
DTA114EK
TR713
DTA114EK
TR712
DTA114EK
TR711
DTA114EK
TR710
DTA114EK
TR709
C725
1/50
R745
470K
D701
1SS270A
D702
1SS270A
C724
1/50
R744
470K
D703
1SS270A
D704
1SS270A
R743
470K
D725
1SS270A
D706
1SS270A
R742
470K
D707
1SS270A
D708
1SS270A
C721
1/50
R741
470K
OUT
R751
470
JA703
C751
100P(J)
R753
2.7M
VCR-1
C752
100P(J)
R754
2.7M
R752
470
R755
470
C753
100P(J)
R757
2.7M
C759
1/50
C760
0.01Z
VCR-2
C754
100P(J)
R758
2.7M
R756
470
R759
470
JA704
C755
100P(J)
R761
2.7M
TAPE-1
C756
100P(J)
R762
2.7M
R760
470
R763
470
C757
100P(J)
R765
2.7M
C761
1/50
C762
0.01Z
TAPE-2
C758
100P(J)
R766
2.7M
R764
470
IC751
TC9273N-004
CLK1
GND
-15V
C763
0.022Z
DATA1
STB7
15V
C764
0.022Z
TR714
DTA114ES
R773
220
C767
4.7/35(BP)
C766
1000/10
1SR35-200A
D709
H/PDET
M6V
MUTE(MULTI)
MUTE(FRONT)
MUTE(CENT.)
MUTE(S.W.)
MUTE(REAR)
STB7
CLK1
DATA1
TO_1U-2958-2
BP_TUC-P
CN081
SR
SL
AGND
RECOUTR
RECOUTL
AGND
T-MON.R
T-MON.L
TO_1U-2958-2
+B LINE
-B LINE
SIGNAL LINE

SCHEMATIC DIAGRAM (1U-2949-1 PRE-AMP P.W.B. UNIT)


1
2
3
4
5
A
B
C
D
E
F
G
H
CN084
TO 1U- 2948-4
FL+
AGND
FL-
AGND
AGND
FR+
AGND
FR-
8P_TKC-A
R543 3.3K
R545 3.3K
R547 1.1K
C535 CQ470P
IC509 NJM2068DDC
R551 100
R549 1.1K
C537 CQ470P
C538 CQ470P
R550 1.1K
R544 3.3K
R546 3.3K
R548 1.1K
C536 CQ470P
R552 100
C539 1750
C540 1750
R553 100K
R554 100K
CN094
9P-KHS
J603
J604
CN059A
5P_TKC-A
TO 1U-2949-5
C
SW
SL
AGND
SR
CN086
8P_TUC-P
15V
-15V
AGND
RLB
RLGND
LEVEL
PTH-
PTH+
TO_1U-2958-1
1U-2949-1 PREAMP_UNIT

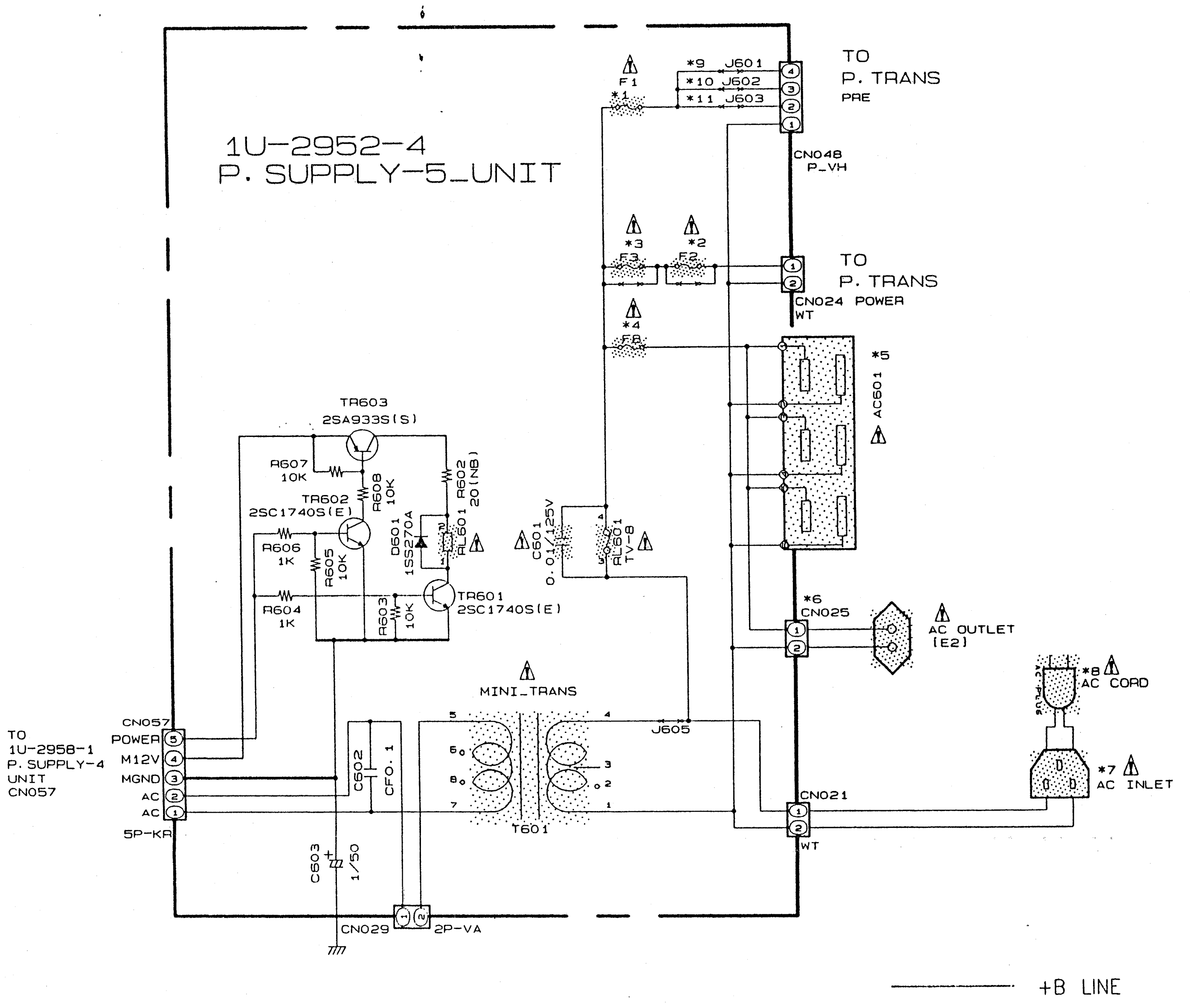
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

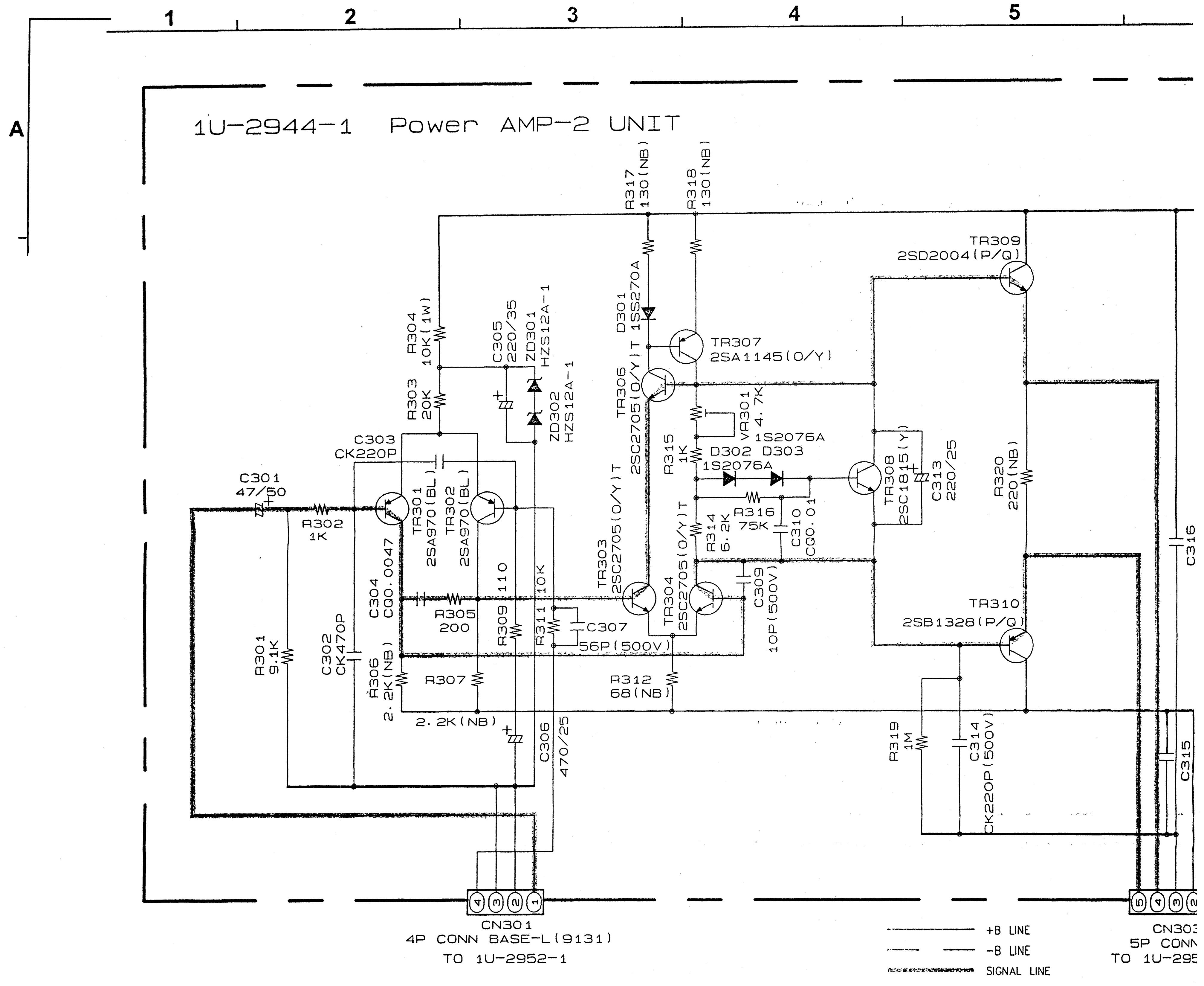
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

9131)

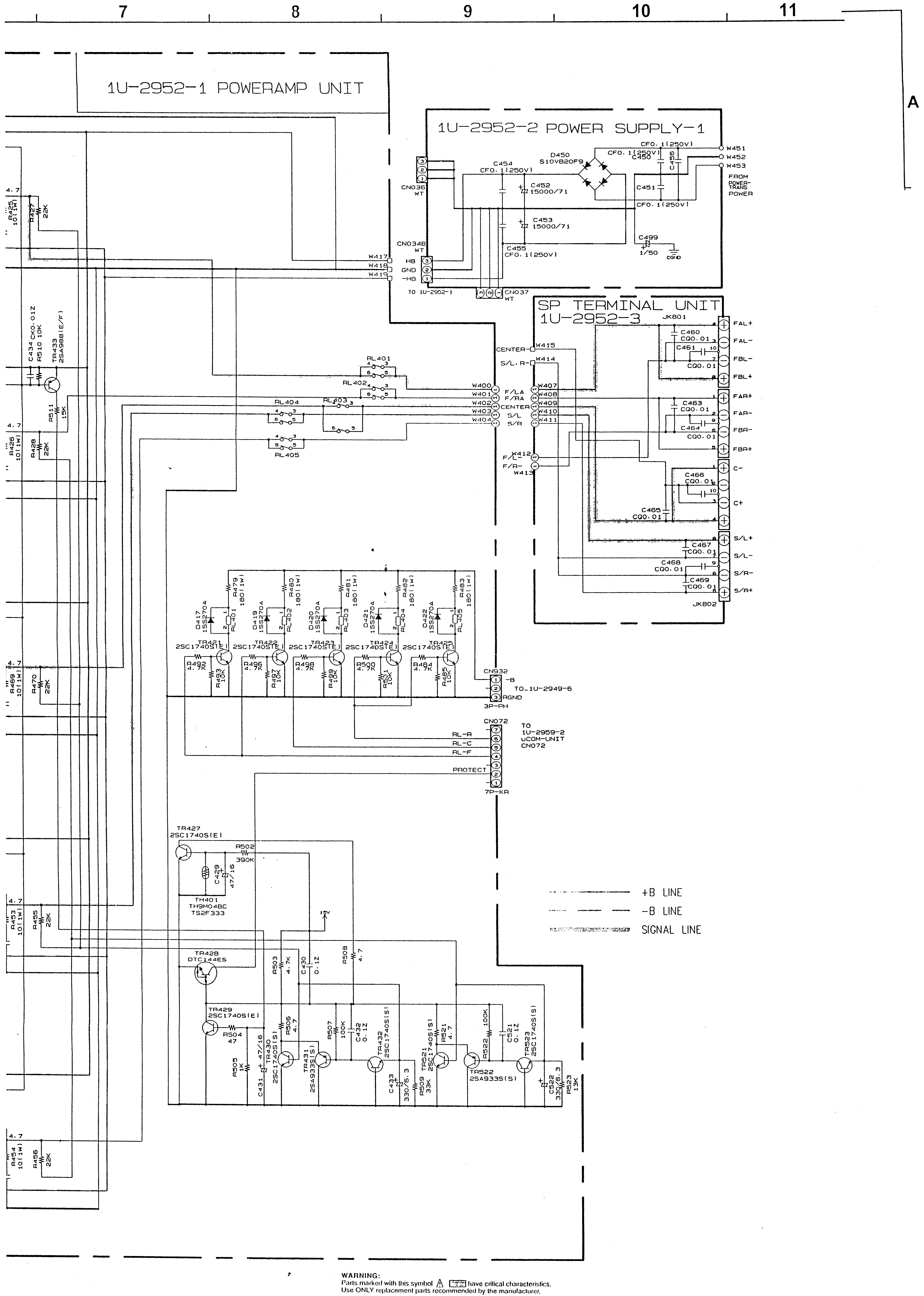

1U-2952-4
P. SUPPLY-5_UNIT
TO
P. TRANS
PRE
*9 J601
*10 J602
*11 J603
CN048
P_VH
F1
*1
*3
F3
*2
F2
TO
P. TRANS
CN024 POWER
WT
*4
F8
*5
AC601
TR603
2SA933S(S)
R607
10K
R608
10K
R602
20(NB)
TR602
2SC1740S(E)
D601
1SS270A
RL601
R606
1K
R605
10K
R604
1K
R603
10K
TR601
2SC1740S(E)
C601
0.01/125V
RL601
TV-8
*6
CN025
AC OUTLET
(E2)
*8
AC CORD
*7
AC INLET
MINI_TRANS
J605
T601
CN021
WT
TO
1U-2958-1
P. SUPPLY-4
UNIT
CN057
CN057
POWER
M12V
MGND
AC
AC
5P-KR
C602
CFO. 1
C603
1/50
CN029
2P-VA
+B LINE

*3 F3	*4 F8	*5 AC601	*6 CN025	*7 AC INLET	*8 AC CORD	*9 J601	*10 J602	*11 J603
6.3A/250V 2061015061	1.25A/250V 2061015016	——	2P VH	2P 2033970008	2062147006	JW	——	——
6.3A/250V 2061015061	1.25A/250V 2061015016	——	2P VH	2P 2033970008	2062147006	JW	——	——
JW	8A/125V 2061046014	3P AC OUTLET	——	3P 2033962003	2062150103	——	JW	——
JW	8A/125V 2061052008	3P AC OUTLET	——	3P 2033962003	2062150103	——	——	JW

SCHEMATIC DIAGRAM (1U-2952-4 POWER SUPPLY-5/1U-2944-1 POWER AMP-2 P.W.B. UNIT)


1
2
3
4
5
A
1U-2944-1 Power AMP-2 UNIT
C301 47/50
R302 1K
R301 9.1K
C302 CK470P
R306 2.2K(NB)
C304 CQ0.0047
R305 200
R307
2.2K(NB)
C303 CK220P
TR301 2SA970(BL)
TR302 2SA970(BL)
R309 110
R311 10K
C307 56P(500V)
C306 470/25
R303 20K
R304 10K(1W)
C305 220/35
ZD301 HZS12A-1
ZD302 HZS12A-1
R317 130(NB)
R318 130(NB)
D301 1SS270A
TR306 2SC2705(O/Y)T
TR303 2SC2705(O/Y)T
TR304 2SC2705(O/Y)T
TR307 2SA1145(O/Y)
R315 1K
VR301 4.7K
D302 D303 1S2076A
1S2076A
R314 6.2K
R316 75K
C310 CQ0.01
C309 10P(500V)
R312 68(NB)
TR308 2SC1815(Y)
C313 220/25
TR309 2SD2004(P/Q)
TR310 2SB1328(P/Q)
R320 220(NB)
R319 1M
C314 CK220P(500V)
C315
C316
CN301 4P CONN BASE-L(9131) TO 1U-2952-1
CN303 5P CONN TO 1U-295
+B LINE
-B LINE
SIGNAL LINE

	*1 F1	* F
ASIA	630mA/250V 2061036008	
EUROPE	630mA/250V 2061036008	
TAIWAN R.O.C	2A/125V 2061039063	12A/ 2061
JAPAN	2A/125V 2061035041	12A/ 2061


7
8
9
10
11
A
1U-2952-1 POWERAMP UNIT
1U-2952-2 POWER SUPPLY-1
D450 S10VB20F9
C454 CF0.1(250V)
C452 15000/71
C453 15000/71
C455 CF0.1(250V)
C450 CF0.1(250V)
C456
C451 CF0.1(250V)
C499 1/50
CGND
W451
W452
W453
FROM POWER-TRANS POWER
CN036 WT
CN034B WT
HB
GND
-HB
TO 1U-2952-1
CN037 WT
W417
W418
W419
SP TERMINAL UNIT 1U-2952-3
JK801
JK802
C460 CQ0.01
C461 CQ0.01
C463 CQ0.01
C464 CQ0.01
C465 CQ0.01
C466 CQ0.01
C467 CQ0.01
C468 CQ0.01
C469 CQ0.01
FAL+
FAL-
FBL-
FBL+
FAR+
FAR-
FBR-
FBR+
C-
C+
S/L+
S/L-
S/R-
S/R+
CENTER W415
S/L.R- W414
W400
W401
W402
W403
W404
F/LA
F/RA
CENTER
S/L
S/R
W407
W408
W409
W410
W411
F/L- W412
F/R- W413
RL401
RL402
RL403
RL404
RL405
R479 180(1W)
R480 180(1W)
R481 180(1W)
R482 180(1W)
R483 180(1W)
D417 1SS270A
D419 1SS270A
D420 1SS270A
D421 1SS270A
D422 1SS270A
TR421 2SC1740S(E)
TR422 2SC1740S(E)
TR423 2SC1740S(E)
TR424 2SC1740S(E)
TR425 2SC1740S(E)
R492 4.7K
R493 10K
R496 4.7K
R497 10K
R498 4.7K
R499 10K
R500 4.7K
R501 10K
R484 4.7K
R485 10K
CN932
-B
RGND
3P-PH
TO 1U-2949-6
CN072
RL-R
RL-C
RL-F
PROTECT
7P-KR
TO 1U-2959-2 uCOM-UNIT CN072
TR427 2SC1740S(E)
R502 390K
C429 47/16
TH401 TH9M04BC TS2F333
TR428 DTC144ES
R503 4.7K
C430 0.1Z
R508 4.7
TR429 2SC1740S(E)
R504 47
R505 1K
C431 47/16
TR430 2SC1740S(S)
R506 4.7
TR431 2SA933S(S)
R507 100K
C432 0.1Z
TR432 2SC1740S(S)
C433 330/6.3
R509 33K
TR521 2SC1740S(S)
R521 4.7
R522 100K
C521 0.1Z
TR522 2SA933S(S)
TR523 2SC1740S(S)
C522 330/6.3
R523 13K
+B LINE
-B LINE
SIGNAL LINE
R425 10(1W)
R427 22K
R426 10(1W)
R428 22K
R469 10(1W)
R470 22K
R453 10(1W)
R455 22K
R454 10(1W)
R456 22K
4.7
C434 CK0.01Z
R510 10K
TR433 2SA988(E/F)
R511 15K

NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

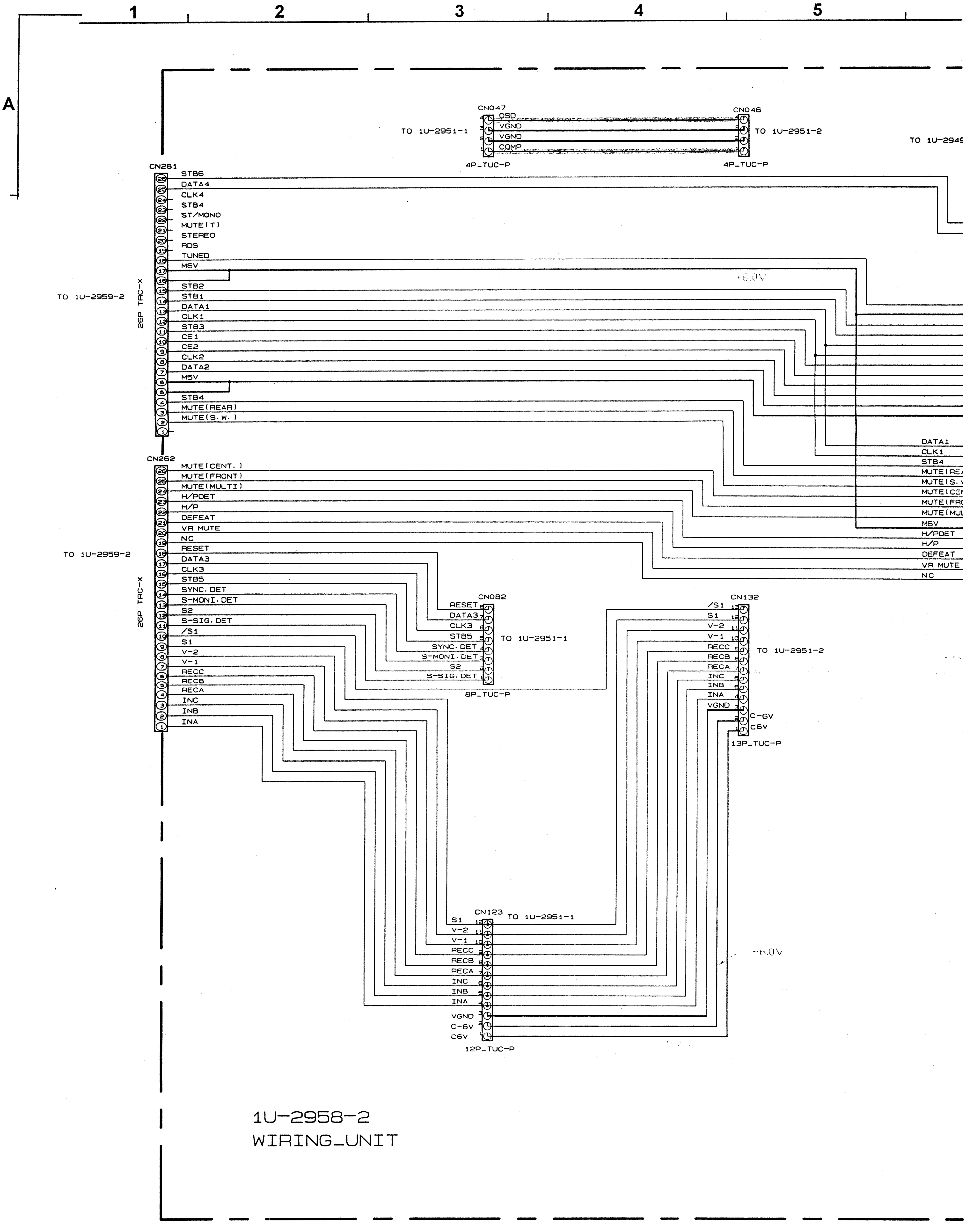
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCH

SCHEMATIC DIAGRAM (1U-2958-2 WIRING P.W.B. UNIT)

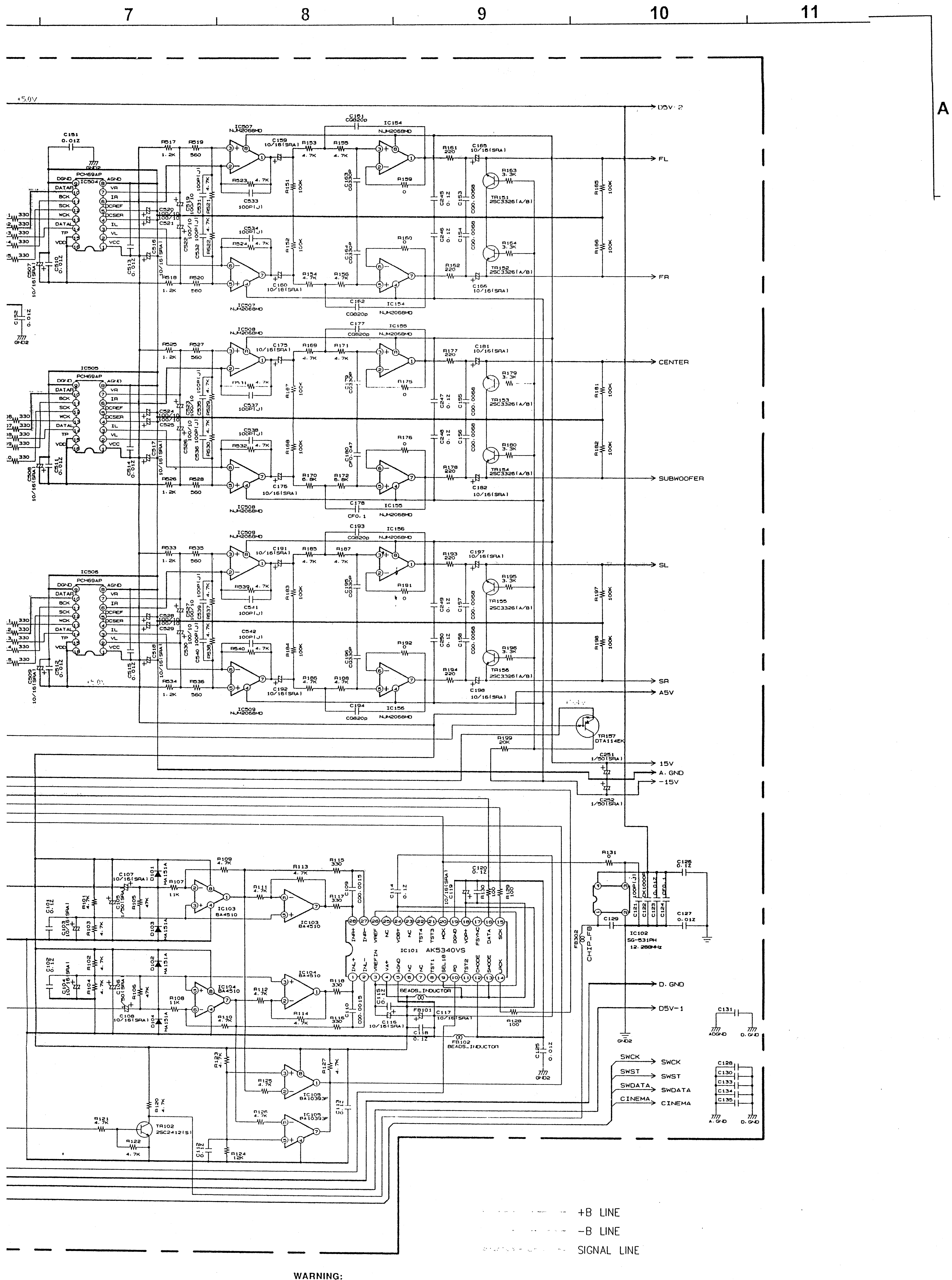

1
2
3
4
5
A
CN047
OSD
VGND
VGND
COMP
TO 1U-2951-1
4P_TUC-P
CN046
TO 1U-2951-2
4P_TUC-P
TO 1U-2949
CN261
STB6
DATA4
CLK4
STB4
ST/MONO
MUTE(T)
STEREO
RDS
TUNED
M6V
STB2
STB1
DATA1
CLK1
STB3
CE1
CE2
CLK2
DATA2
M5V
STB4
MUTE(REAR)
MUTE(S.W.)
TO 1U-2959-2
26P TRC-X
CN262
MUTE(CENT.)
MUTE(FRONT)
MUTE(MULTI)
H/PDET
H/P
DEFEAT
VR MUTE
NC
RESET
DATA3
CLK3
STB5
SYNC.DET
S-MONI.DET
S2
S-SIG.DET
/S1
S1
V-2
V-1
RECC
RECB
RECA
INC
INB
INA
TO 1U-2959-2
26P TRC-X
DATA1
CLK1
STB4
MUTE(RE
MUTE(S.
MUTE(CE
MUTE(FR
MUTE(MU
M6V
H/PDET
H/P
DEFEAT
VR MUTE
NC
CN082
RESET
DATA3
CLK3
STB5
SYNC.DET
S-MONI.DET
S2
S-SIG.DET
TO 1U-2951-1
8P_TUC-P
CN132
/S1
S1
V-2
V-1
RECC
RECB
RECA
INC
INB
INA
VGND
C-6V
C6V
TO 1U-2951-2
13P_TUC-P
CN123
TO 1U-2951-1
S1
V-2
V-1
RECC
RECB
RECA
INC
INB
INA
VGND
C-6V
C6V
12P_TUC-P
1U-2958-2
WIRING_UNIT

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have criti
Use ONLY replacement parts recommended by the

CAUTION:
Before returning the unit to the customer, make sur
leakage current check or (2) a line to chassis resist
current exceeds 0.5 milliamps, or if the resistance f
of the power cord is less than 240 kohms, the unit i

WARNING:
DO NOT return the unit to the customer until the pr
corrected.


7
8
9
10
11
A
+5.0V
D5V-2
FL
FR
CENTER
SUBWOOFER
SL
SR
A5V
15V
A.GND
-15V
D.GND
D5V-1
SWCK
SWST
SWDATA
CINEMA
IC504 PCM69AP
IC505 PCM69AP
IC506 PCM69AP
IC507 NJM2068MD
IC508 NJM2068MD
IC509 NJM2068MD
IC154 NJM2068MD
IC155 NJM2068MD
IC156 NJM2068MD
TR151 2SC3326(A/B)
TR152 2SC3326(A/B)
TR153 2SC3326(A/B)
TR154 2SC3326(A/B)
TR155 2SC3326(A/B)
TR156 2SC3326(A/B)
TR157 DTA114EK
IC101 AK5340VS
IC102 SG-531PH 12.288MHz
IC103 BA4510
IC104 BA4510
IC105 BA10393F
TR102 2SC2412(S)
FB101
FB102 BEADS_INDUCTOR
FB302 CHIP_FB
GND2
ADGND
D.GND
A.GND
+B LINE
-B LINE
SIGNAL LINE

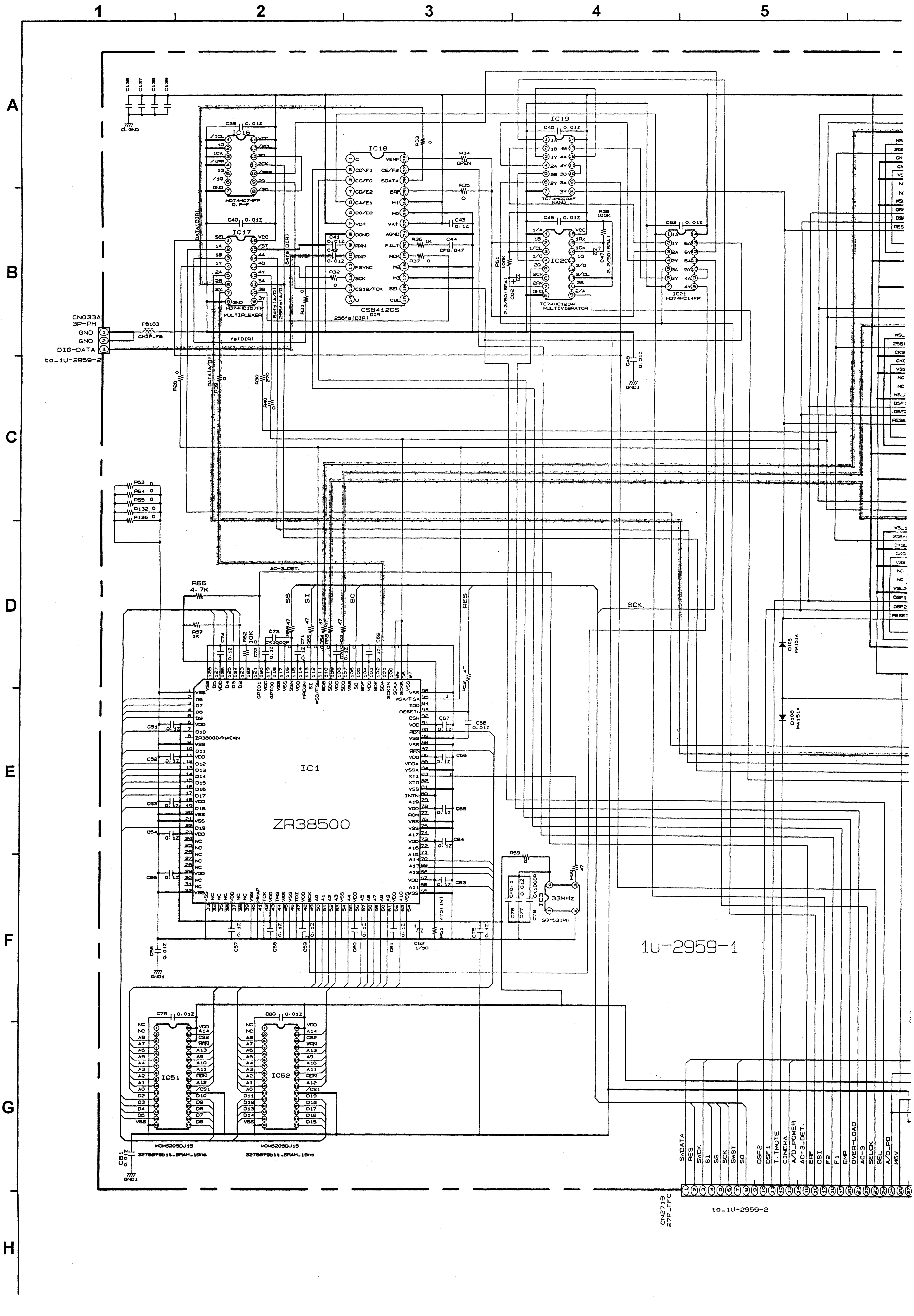
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

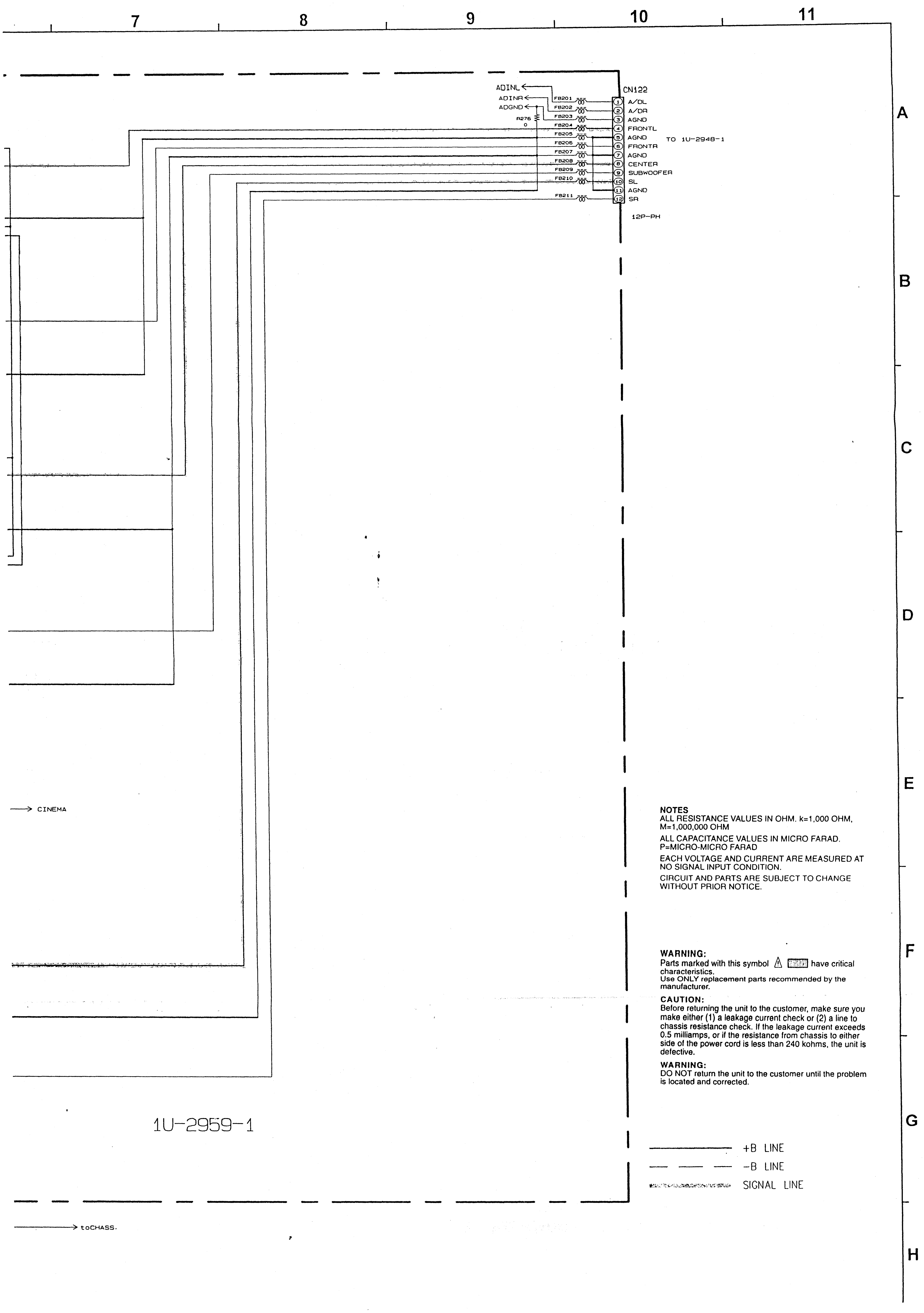
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

STANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
CITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
TAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT
N.
ND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR

SCHEMATIC DIAGRAM (1U-2959-1 DSP. P.W.B. UNIT-1/2)


1
2
3
4
5
A
B
C
D
E
F
G
H
IC16
HD74HC74FP
D.F-F
IC17
HD74HC157FP
MULTIPLEXER
IC18
CS8412CS
DIR
IC19
TC74HC00AF
NAND
IC20
TC74HC123AF
MULTIVIBRATOR
IC21
HD74HC14FP
IC1
ZR38500
ZR38000/MACKN
IC3
33MHz
IC51
IC52
MCM6205DJ15
32768*9bit_SRAM_15ns
CN033A
3P-PH
GND
GND
DIG-DATA
to_1U-2959-2
FB103
CHIP_FB
DATA(DIR)
DATA(A/D)
fs(DIR)
64fs(A/D)
256fs(A/D)
64fs(DIR)
256fs(DIR)
AC-3_DET.
SS
SI
SO
RES
SCK.
R66
4.7K
R62
10K
D105
MA151A
D106
MA151A
1u-2959-1
CN271B
27P_FFC
SWDATA
RES
SWCK
SI
SS
SCK
SWST
SO
DSF2
DSF1
T.TMUTE
CINEMA
A/D_POWER
AC-3_DET.
ERF
CSI
F2
F1
EMP
OVER-LOAD
AC-3
SELCK
SEL
A/D_PD
M6V
to_1U-2959-2


7
8
9
10
11
A
B
C
D
E
F
G
H
CN122
ADINL
ADINR
ADGND
R276
0
FB201
FB202
FB203
FB204
FB205
FB206
FB207
FB208
FB209
FB210
FB211
① A/DL
② A/DR
③ AGND
④ FRONTL
⑤ AGND
⑥ FRONTR
⑦ AGND
⑧ CENTER
⑨ SUBWOOFER
⑩ SL
⑪ AGND
⑫ SR
TO 1U-2948-1
12P-PH
CINEMA
1U-2959-1
toCHASS.
+B LINE
-B LINE
SIGNAL LINE

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

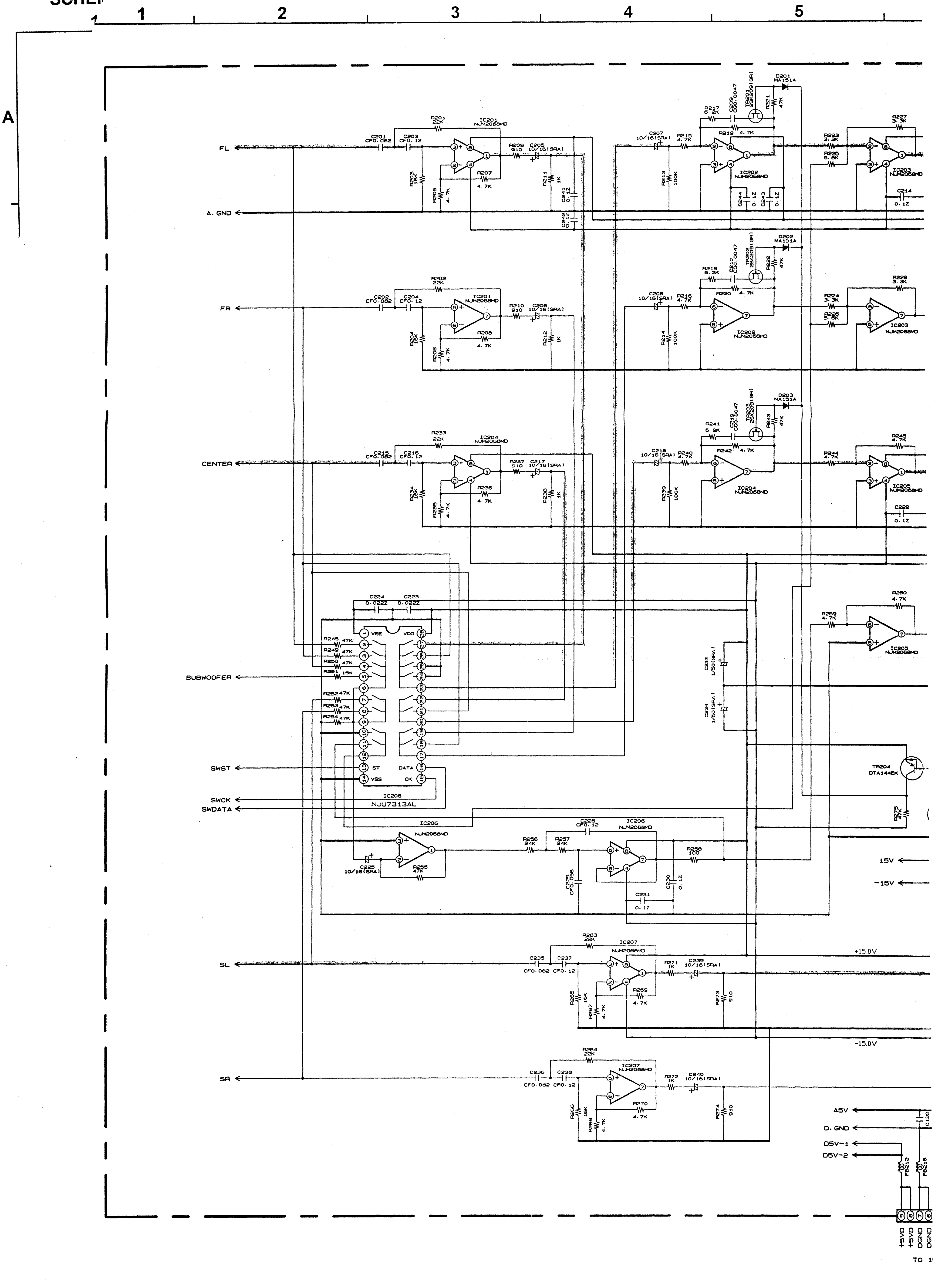
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

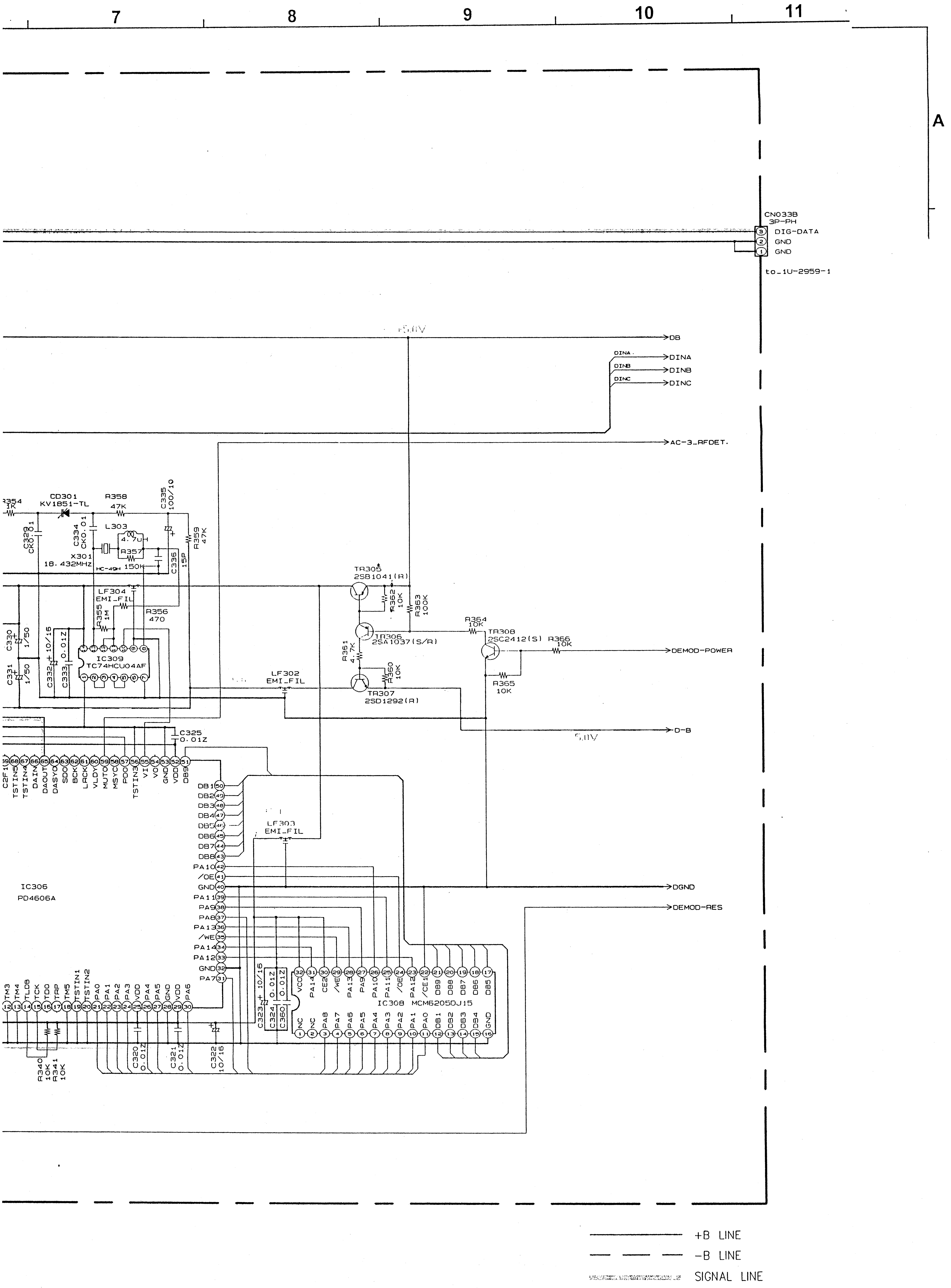
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

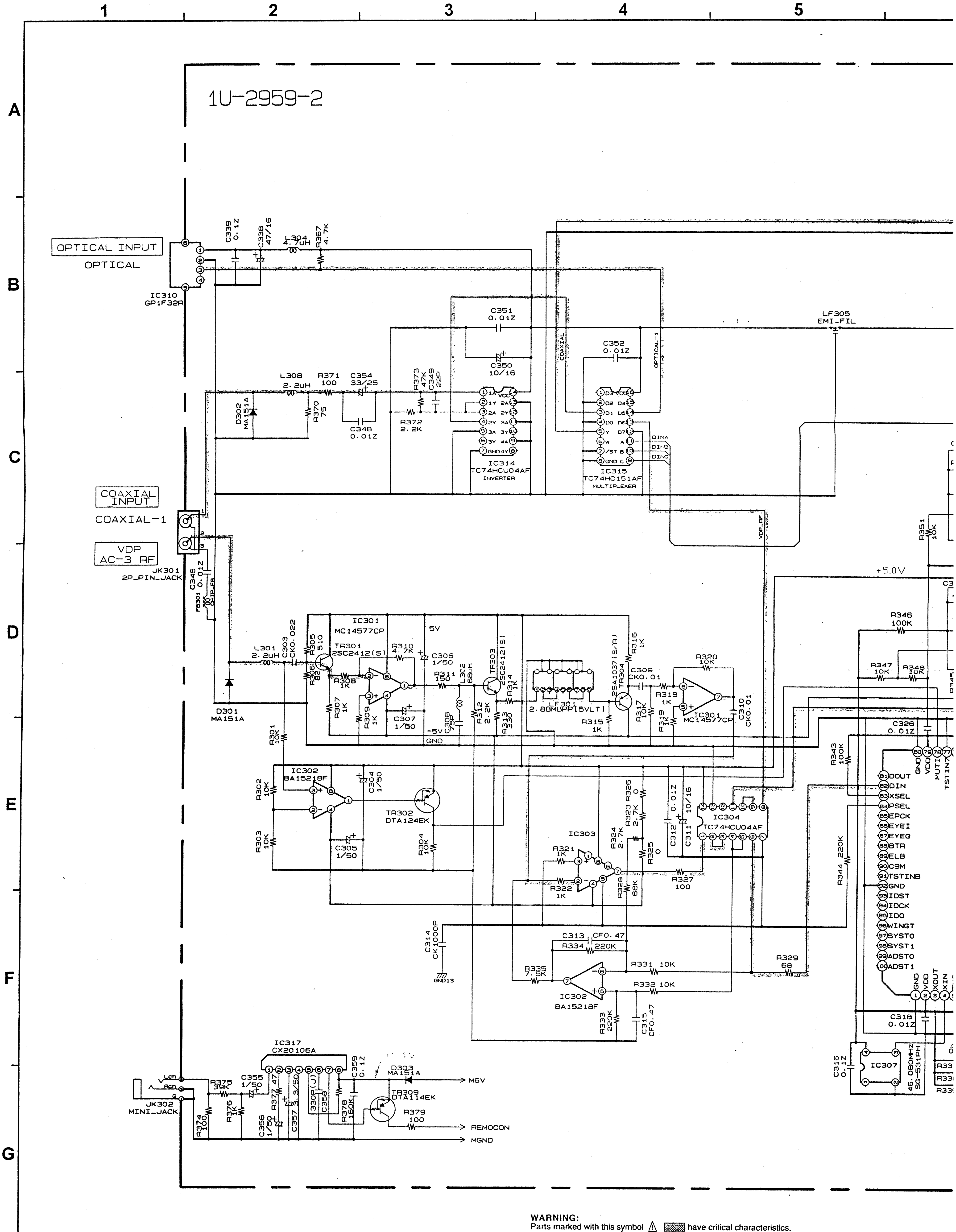
SCHEI

SCHEMATIC DIAGRAM (1U-2959-1 DSP. P.W.B. UNIT-2/2)


1
2
3
4
5
A
FL
A. GND
FR
CENTER
SUBWOOFER
SWST
SWCK
SWDATA
SL
SR
IC201 NJM2068MD
IC202 NJM2068MD
IC203 NJM2068MD
IC204 NJM2068MD
IC205 NJM2068MD
IC206 NJM2068MD
IC207 NJM2068MD
IC208 NJU7313AL
VEE
VDD
ST
DATA
VSS
CK
TR201 2SK209(GR)
TR202 2SK209(GR)
TR203 2SK209(GR)
TR204 DTA144EK
D201 MA151A
D202 MA151A
D203 MA151A
C224 0.022Z
C223 0.022Z
C233 1/50(SRA)
C234 1/50(SRA)
15V
-15V
+15.0V
-15.0V
A5V
D. GND
D5V-1
D5V-2
FB212
FB216
C132
+5VD
+5VD
DGND
DGND
TO 1


7
8
9
10
11
A
CN033B
3P-PH
DIG-DATA
GND
GND
to_1U-2959-1
DB
DINA
DINB
DINC
AC-3_RFDET.
DEMOD-POWER
D-B
DGND
DEMOD-RES
5.0V
CD301
KV1851-TL
R358
47K
C335
100/10
R359
47K
R354
1K
C329
CK0.01
C334
CK0.01
L303
4.7UH
R357
150K
X301
18.432MHz
HC-49H
C336
15P
LF304
EMI_FIL
R355
1M
R356
470
C330
1/50
C331
1/50
C332
10/16
C333
0.01Z
IC309
TC74HCU04AF
LF302
EMI_FIL
TR305
2SB1041(R)
R362
10K
R363
100K
TR306
2SA1037(S/R)
R361
4.7K
R360
10K
TR307
2SD1292(R)
R364
10K
TR308
2SC2412(S)
R366
10K
R365
10K
C325
0.01Z
LF303
EMI_FIL
IC306
PD4606A
IC308
MCM6205DJ15
C323
10/16
C324
0.01Z
C360
0.01Z
C320
0.01Z
C321
0.01Z
C322
10/16
R340
10K
R341
10K
C2F1
TSTIN5
TSTIN4
DAIN
DAOUT
DASYO
SDO
BCK
LRCK
VLDY
MUTO
MSYC
PDO
TSTIN3
VI
VO
GND
VDD
DB9
DB1
DB2
DB3
DB4
DB5
DB6
DB7
DB8
PA10
/OE
GND
PA11
PA9
PA8
PA13
/WE
PA14
PA12
GND
PA7
TM3
TM4
TLDB
TCK
TDO
TRP
TM5
TSTIN1
TSTIN2
PA0
PA1
PA2
PA3
VDD
PA4
PA5
GND
VDD
PA6
VCC
PA14
CE2
/WE
PA13
PA9
PA11
/OE
PA10
/CE1
PA12
DB9
DB8
DB7
DB6
DB5
NC
NC
PA8
PA7
PA6
PA5
PA4
PA3
PA2
PA1
PA0
DB1
DB2
DB3
DB4
GND
+B LINE
-B LINE
SIGNAL LINE

SCHEMATIC DIAGRAM (1U-2959-2 MICON P.W.B. UNIT-1/2)


1
2
3
4
5
A
B
C
D
E
F
G
1U-2959-2
OPTICAL INPUT
OPTICAL
IC310
GP1F32R
C339 0.1Z
C338 47/16
L304 4.7uH
R367 4.7K
C351 0.01Z
C350 10/16
LF305 EMI_FIL
C352 0.01Z
COAXIAL
OPTICAL-1
L308 2.2uH
R371 100
C354 33/25
R373 47K
C349 22P
D302 MA151A
R370 75
C348 0.01Z
R372 2.2K
IC314
TC74HCU04AF
INVERTER
IC315
TC74HC151AF
MULTIPLEXER
DINA
DINB
DINC
VDP_RF
COAXIAL INPUT
COAXIAL-1
VDP
AC-3 RF
JK301
2P_PIN_JACK
C346 0.01Z
FB301 CHIP_FB
+5.0V
R351 10K
R346 100K
R347 10K
R348 10K
C326 0.01Z
IC301
MC14577CP
TR301
2SC2412(S)
L301 2.2uH
C303 CK0.022
R305 510
R306 82
R308 1K
R307 1K
R309 1K
R310 4.7K
C306 1/50
C307 1/50
5V
-5V
GND
R311 150
L302 68uH
C308 75P
R312 2.2K
TR303
2SC2412(S)
R313 330
R314 1K
LF301
2.88MBPF(5VLT)
2SA1037(S/R)
TR304
R315 1K
R316 1K
C309 CK0.01
R317 10K
R318 1K
R319 1K
R320 10K
IC301
MC14577CP
C310 CK0.01
D301
MA151A
R301 10K
IC302
BA15218F
R302 10K
R303 10K
C304 1/50
C305 1/50
TR302
DTA124EK
R304 10K
IC303
R321 1K
R322 1K
R323 2.7K
R324 2.7K
R325 0
R326 0
R328 68K
R327 100
C312 0.01Z
C311 10/16
IC304
TC74HCU04AF
R343 100K
R344 220K
C314 CK1000P
GND13
C313 CF0.47
R334 220K
R335 7.5K
IC302
BA15218F
R331 10K
R332 10K
R333 220K
C315 CF0.47
R329 68
GND
VDD
MUTI
TSTIN
80
79
78
77
81 DOUT
82 DIN
83 XSEL
84 PSEL
85 EPCK
86 EYEI
87 EYEO
88 BTR
89 ELB
90 C9M
91 TSTINB
92 GND
93 IDST
94 IDCK
95 IDO
96 WINGT
97 SYSTO
98 SYST1
99 ADSTO
100 ADST1
1 GND
2 VDD
3 XOUT
4 XIN
C318 0.01Z
C316 0.1Z
IC307
46.080MHz
SG-531PH
IC317
CX20106A
JK302
MINI_JACK
Lch
Rch
G
R375 39K
R374 100
R376 1K
C355 1/50
C356 1/50
R377 47
C357 3.3/50
330P(J)
C358
R378 160K
C359 0.1Z
D303 MA151A
TR309 DTA114EK
R379 100
M6V
REMOCON
MGND

H

NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

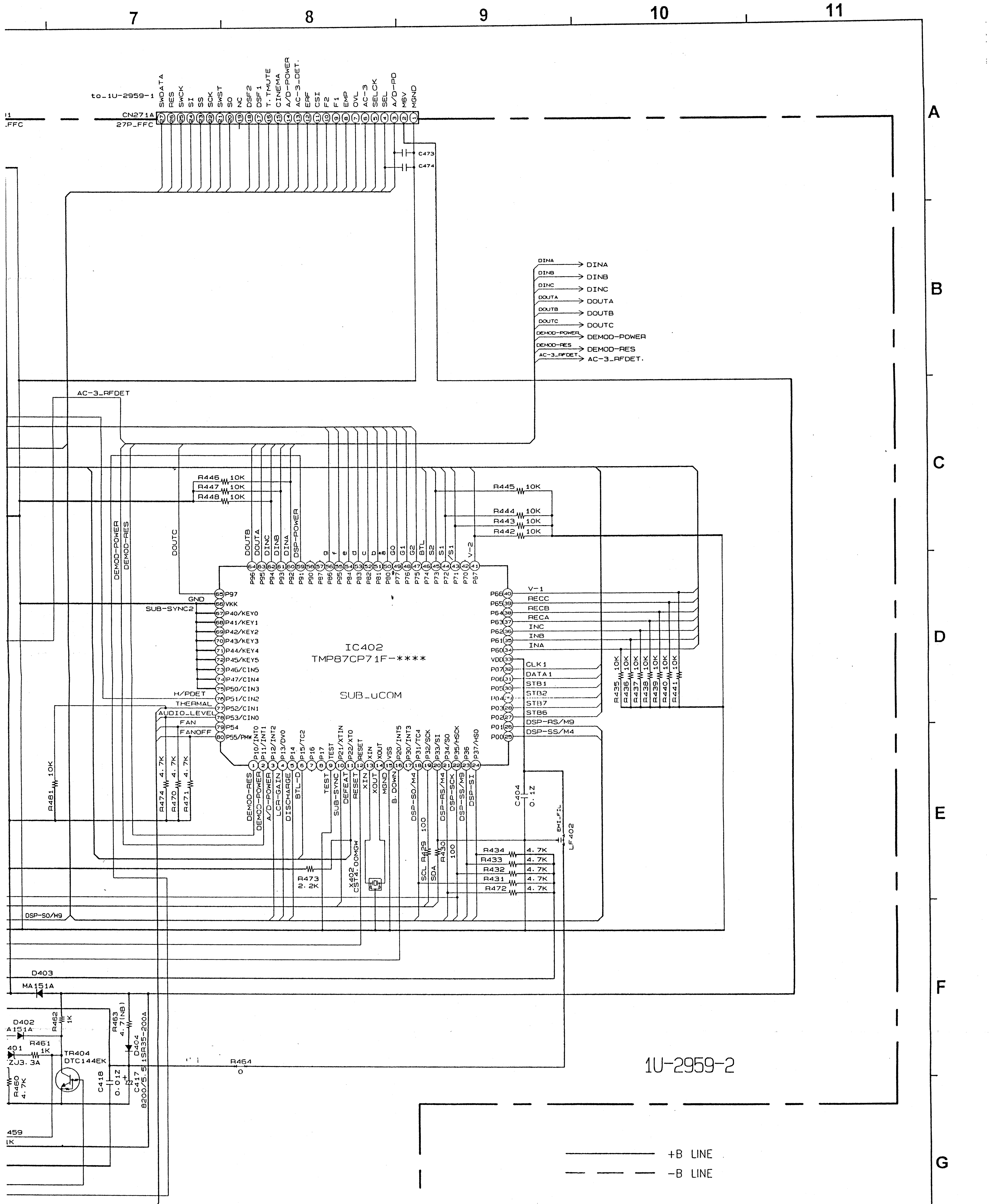
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.



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A
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F
G
H
to_1U-2959-1
CN271A
27P_FFC
SWDATA
RES
SWCK
SI
SS
SCK
SWST
SO
NC
DSF2
DSF1
T.TMUTE
CINEMA
A/D-POWER
AC-3-DET.
ERF
CSI
F2
F1
EMP
OVL
AC-3
SELCK
SEL
A/D-PD
M6V
MGND
C473
C474
DINA
DINB
DINC
DOUTA
DOUTB
DOUTC
DEMOD-POWER
DEMOD-RES
AC-3_RFDET.
AC-3_RFDET
IC402
TMP87CP71F-****
SUB_uCOM
R446 10K
R447 10K
R448 10K
R445 10K
R444 10K
R443 10K
R442 10K
R435 10K
R436 10K
R437 10K
R438 10K
R439 10K
R440 10K
R441 10K
V-1
RECC
RECB
RECA
INC
INB
INA
CLK1
DATA1
STB1
STB2
STB7
STB6
DSP-RS/M9
DSP-SS/M4
V-2
/S1
S1
S2
BTL
G2
G1
G0
DSP-POWER
DOUTC
GND
SUB-SYNC2
H/PDET
THERMAL
AUDIO_LEVEL
FAN
FANOFF
DEMOD-RES
DEMOD-POWER
A/D-POWER
LCR-GAIN
DISCHARGE
BTL-O
TEST
SUB-SYNC
DEFEAT
RESET
XIN
XOUT
MGND
B.DOWN
DSP-SO/M4
DSP-RS/M4
DSP-SCK
DSP-SS/M9
DSP-SI
SCL R429 100
SDA
R430 100
X402 CST4.00MGW
R473 2.2K
C404 0.1Z
LF402 EMI_FIL
R434 4.7K
R433 4.7K
R432 4.7K
R431 4.7K
R472 4.7K
R474 4.7K
R470 4.7K
R471 4.7K
R481 10K
DSP-SO/M9
D403 MA151A
D402 A151A
R462 1K
R461 1K
ZJ3.3A
TR404 DTC144EK
R460 4.7K
C418 0.01Z
R463 4.7(NB)
D404 1SR35-200A
C417 8200/5.5
R464 0
459 1K
1U-2959-2
+B LINE
-B LINE

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

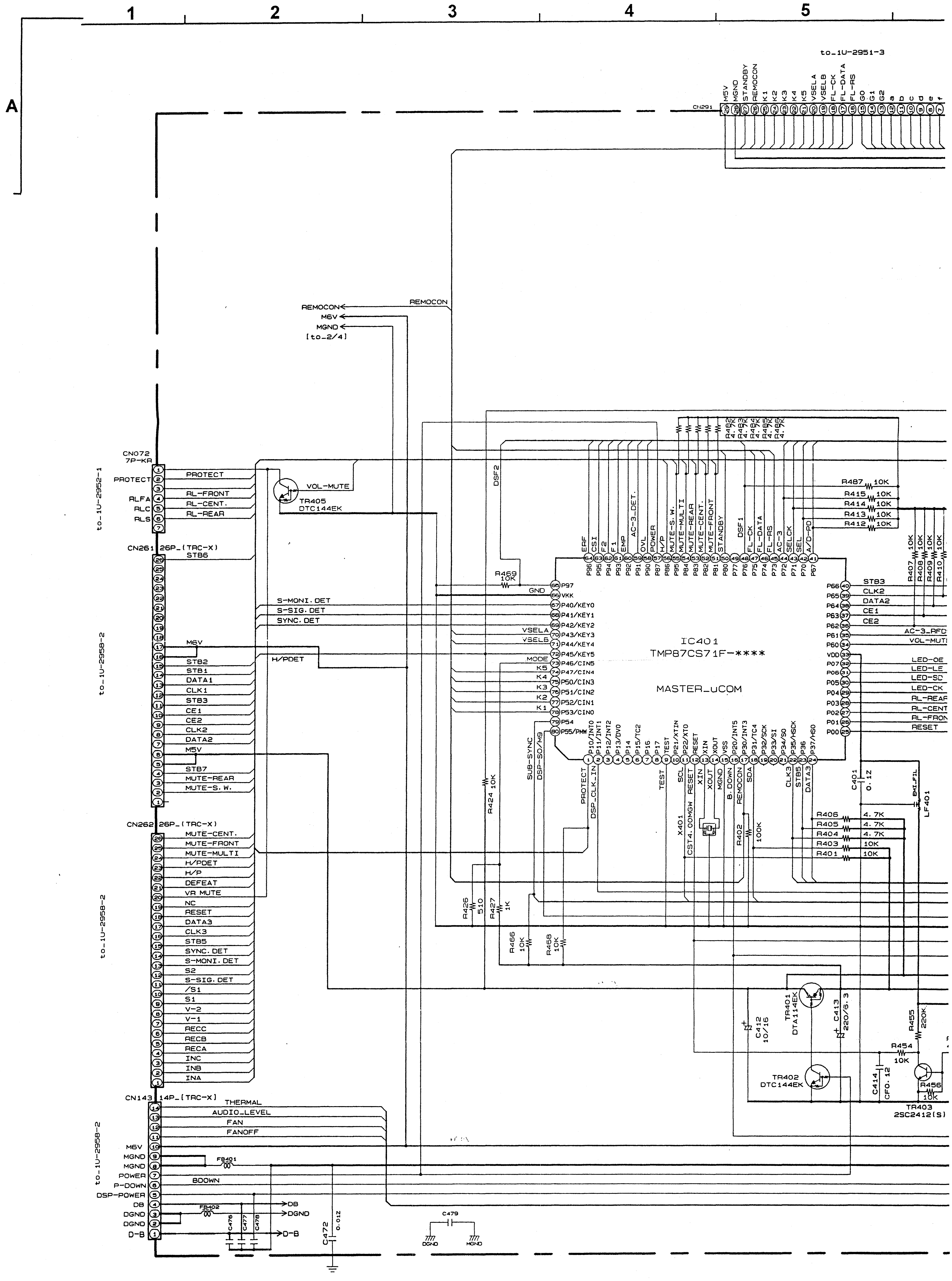
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCH

SCHEMATIC DIAGRAM (1U-2959-2 MICON P.W.B. UNIT-2/2)


1
2
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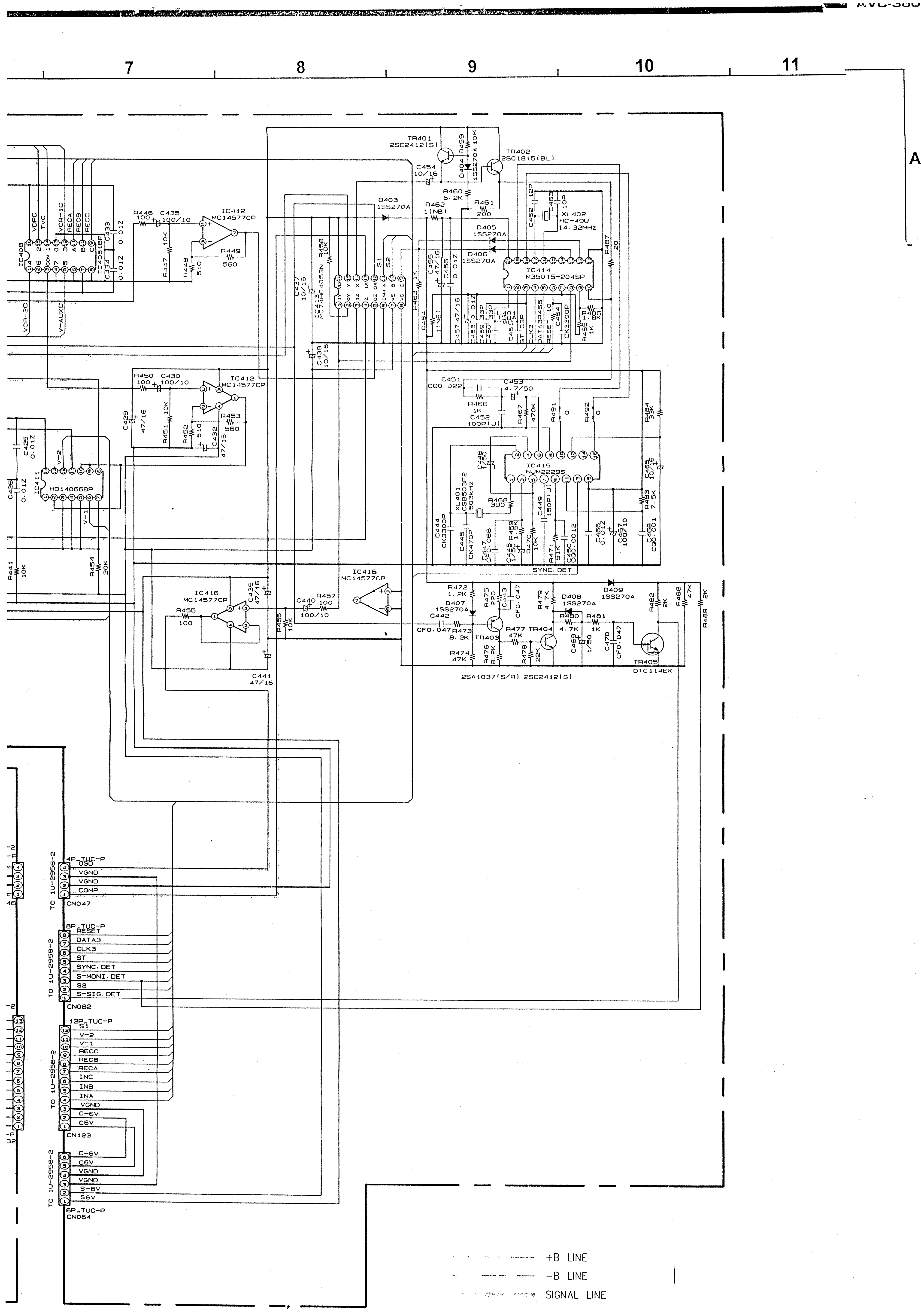
A
to_1U-2951-3
CN291
M5V
MGND
STANDBY
REMOCON
K1
K2
K3
K4
K5
VSELA
VSELB
FL-CK
FL-DATA
FL-RS
G0
G1
G2
a
b
c
d
e
f
REMOCON
REMOCON
M6V
MGND
[to_2/4]
to_1U-2952-1
CN072
7P-KR
PROTECT
RLFA
RLC
RLS
PROTECT
RL-FRONT
RL-CENT.
RL-REAR
VOL-MUTE
TR405
DTC144EK
to_1U-2958-2
CN261 26P_(TRC-X)
STB6
M6V
STB2
STB1
DATA1
CLK1
STB3
CE1
CE2
CLK2
DATA2
M5V
STB7
MUTE-REAR
MUTE-S. W.
S-MONI. DET
S-SIG. DET
SYNC. DET
H/PDET
to_1U-2958-2
CN262 26P_(TRC-X)
MUTE-CENT.
MUTE-FRONT
MUTE-MULTI
H/PDET
H/P
DEFEAT
VR MUTE
NC
RESET
DATA3
CLK3
STB5
SYNC. DET
S-MONI. DET
S2
S-SIG. DET
/S1
S1
V-2
V-1
RECC
RECB
RECA
INC
INB
INA
to_1U-2958-2
CN143 14P_(TRC-X)
THERMAL
AUDIO_LEVEL
FAN
FANOFF
M6V
MGND
MGND
POWER
P-DOWN
DSP-POWER
D8
DGND
DGND
D-B
FB401
B.DOWN
FB402
C476
C477
C478
D8
DGND
D-B
C472
0.01Z
C479
DGND
MGND
DSF2
R469
10K
GND
R424 10K
SUB-SYNC
DSP-SO/M9
VSELA
VSELB
MODE
K5
K4
K3
K2
K1
IC401
TMP87CS71F-****
MASTER_uCOM
P97
VKK
P40/KEY0
P41/KEY1
P42/KEY2
P43/KEY3
P44/KEY4
P45/KEY5
P46/CIN5
P47/CIN4
P50/CIN3
P51/CIN2
P52/CIN1
P53/CIN0
P54
P55/PMM
P10/INT0
P11/INT1
P12/INT2
P13/DV0
P14
P15/TC2
P16
P17
TEST
P21/XTIN
P22/XT0
RESET
XIN
XOUT
VSS
P20/INT5
P30/INT3
P31/TC4
P32/SCK
P33/SI
P34/SO
P35/HSCK
P36
P37/HSO
P96
P95
P94
P93
P92
P91
P90
P87
P86
P95
P84
P83
P82
P81
P80
P77
P76
P75
P74
P73
P72
P71
P70
P67
EAF
CSI
F2
F1
EMP
AC-3-DET.
OVL
POWER
H/P
MUTE-S. W.
MUTE-MULTI
MUTE-REAR
MUTE-CENT.
MUTE-FRONT
STANDBY
DSF1
FL-CK
FL-DATA
FL-RS
AC-3
SELCK
SEL
A/D-PD
R482 4.7K
R483 4.7K
R484 4.7K
R485 4.7K
R486 4.7K
R487 10K
R415 10K
R414 10K
R413 10K
R412 10K
R407 10K
R408 10K
R409 10K
R410 10K
P66
P65
P64
P63
P62
P61
P60
VDD
P07
P06
P05
P04
P03
P02
P01
P00
STB3
CLK2
DATA2
CE1
CE2
AC-3_RFD
VOL-MUT
LED-OE
LED-LE
LED-SD
LED-CK
RL-REAR
RL-CENT
RL-FRON
RESET
PROTECT
DSP_CLK_IN
TEST
SCL
RESET
XIN
XOUT
MGND
B. DOWN
REMOCON
SDA
CLK3
STB5
DATA3
X401
CST4. 00MGW
R402
100K
C401
0.1Z
EMI_FIL
LF401
R406 4.7K
R405 4.7K
R404 4.7K
R403 10K
R401 10K
R426
510
R427
1K
R466
10K
R468
10K
TR401
DTA114EK
C412
10/16
C413
220/6.3
TR402
DTC144EK
C414
CF0. 12
R454
10K
R455
220K
R456
10K
TR403
2SC2412(S)


7
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11
A
IC408
TC4051BP
VDPC
TVC
VCR-1C
RECA
RECB
RECC
VCR-2C
V-AUXC
C433 0.01Z
C434 0.01Z
R446 100
C435 100/10
R447 10K
R448 510
R449 560
IC412 MC14577CP
R450 100
C430 100/10
C429 47/16
R451 10K
R452 510
R453 560
C432 47/16
C425 0.01Z
C426 0.01Z
IC411 HD14066BP
V-1
V-2
R441 10K
R454 20K
IC416 MC14577CP
R455 100
C439 47/16
C441 47/16
R456 10K
C440 100/10
R457 100
C237 10/16
C438 10/16
IC413 HC4053N
R458 10K
S1
S2
D403 1SS270A
TR401 2SC2412(S)
C454 10/16
R459 10K
D404 1SS270A
TR402 2SC1815(BL)
R460 6.2K
R461 200
R462 1(NB)
R463 1K
R454
D405 1SS270A
D406 1SS270A
C455 47/16
C456 0.01Z
C457 47/16
C452 12P
C463 10P
XL402 HC-49U 14.32MHz
IC414 M35015-204SP
R487 20
R485 1.8K
R486 1K
CLK3
DATA3
RESET
C464 CK3300P
C451 CQ0.022
C453 4.7/50
R466 1K
C452 100P(J)
R467 470K
R491 0
R492 0
R484 33K
C446 1/50
IC415 NJM2229S
C465 10/16
XL401 CSB503F2 503KHz
R468 390
C444 CK3300P
C445 CK470P
C447 CF0.068
C448 1/50
R469 1.5K
R470 10K
C449 150P(J)
R471 51K
C450 CQ0.0012
C466 0.012
C467 100/10
R483 7.5K
C468 CQ0.001
SYNC. DET
R472 1.2K
D407 1SS270A
C442 CF0.047
R473 8.2K
R474 47K
R475 220
R476 8.2K
C443 CF0.047
TR403
R477 47K
R478 22K
TR404
R479 4.7K
D408 1SS270A
R480 4.7K
R481 1K
C469 1/50
C470 CF0.047
D409 1SS270A
R482 2K
R488 47K
R489 2K
TR405 DTC114EK
2SA1037(S/R) 2SC2412(S)
4P_TUC-P
OSD
VGND
VGND
COMP
CN047
TO 1U-2958-2
8P_TUC-P
RESET
DATA3
CLK3
ST
SYNC. DET
S-MONI. DET
S2
S-SIG. DET
CN082
TO 1U-2958-2
12P_TUC-P
S1
V-2
V-1
RECC
RECB
RECA
INC
INB
INA
VGND
C-6V
C6V
CN123
TO 1U-2958-2
C-6V
C6V
VGND
VGND
S-6V
S6V
6P_TUC-P
CN064
TO 1U-2958-2
+B LINE
-B LINE
SIGNAL LINE

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
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WARNING:
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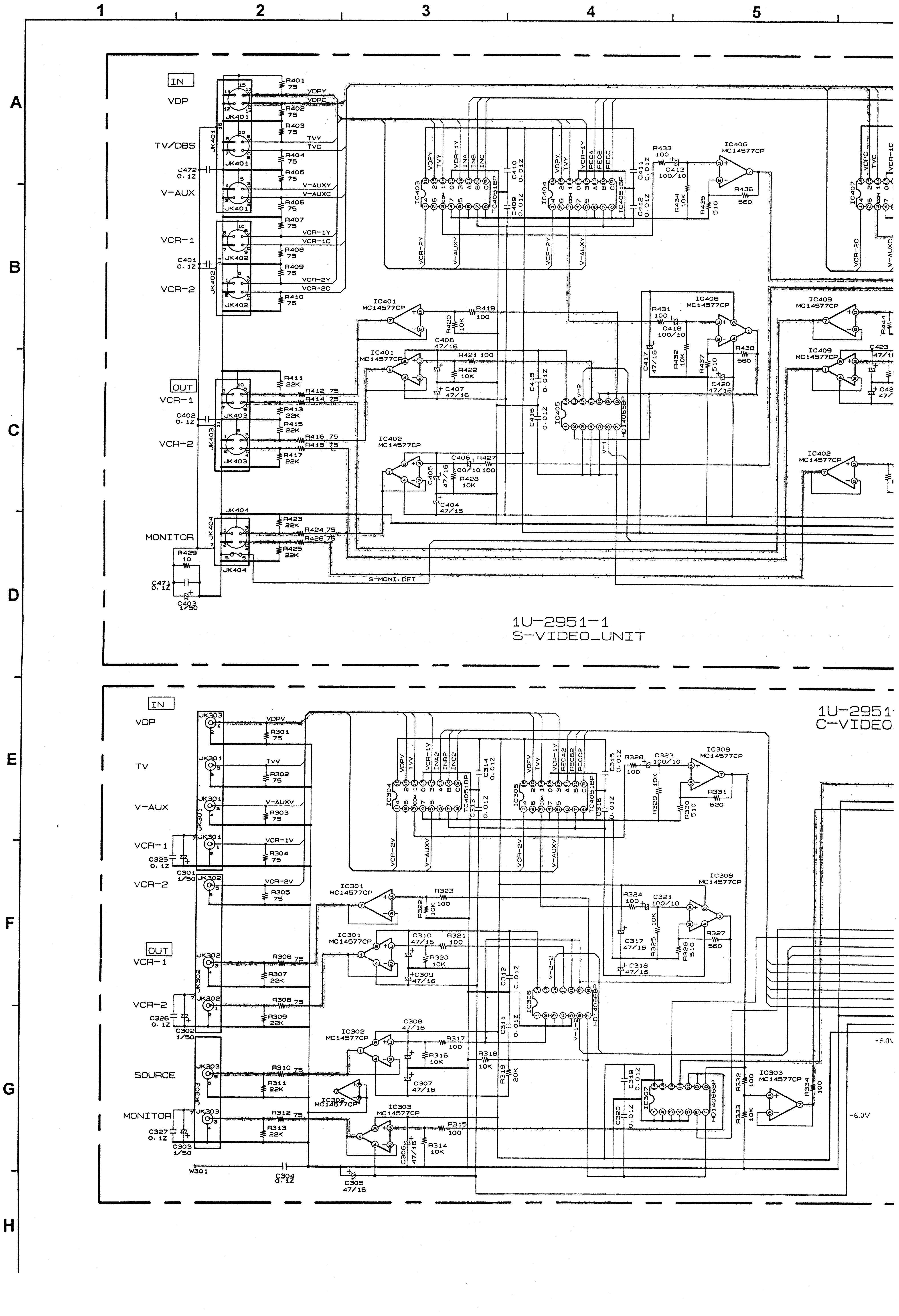
SCHEMATIC DIAGRAM (1U-2951-1, 2 S-VIDEO & C-VIDEO P.W.B. UNIT)


1
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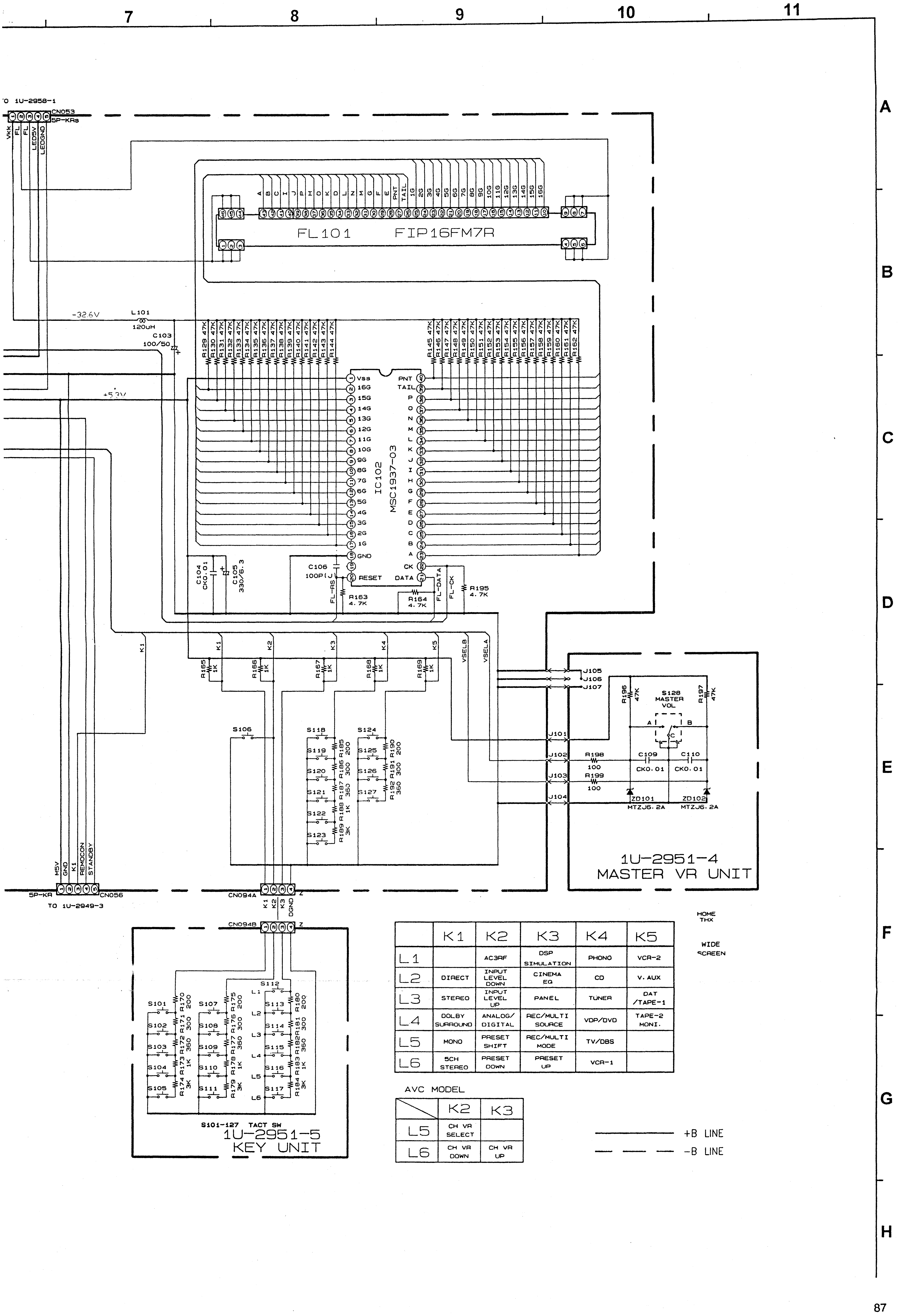
A
B
C
D
E
F
G
H
IN
VDP
TV/DBS
V-AUX
VCR-1
VCR-2
OUT
MONITOR
JK401
JK402
JK403
JK404
C472 0.1Z
C401 0.1Z
C402 0.1Z
R429 10
C471 0.1Z
C403 1/50
R401 75
R402 75
R403 75
R404 75
R405 75
R406 75
R407 75
R408 75
R409 75
R410 75
R411 22K
R412 75
R413 22K
R414 75
R415 22K
R416 75
R417 22K
R418 75
R423 22K
R424 75
R425 22K
R426 75
VDPY
VDPC
TVY
TVC
V-AUXY
V-AUXC
VCR-1Y
VCR-1C
VCR-2Y
VCR-2C
IC401 MC14577CP
IC402 MC14577CP
IC403 TC4051BP
IC404 TC4051BP
IC405 HD14066BP
IC406 MC14577CP
IC407
IC409 MC14577CP
INA
INB
INC
RECA
RECB
RECC
C409 0.01Z
C410 0.01Z
C411 0.01Z
C412 0.01Z
R433 100
C413 100/10
R434 10K
R435 510
R436 560
R419 100
R420 10K
C408 47/16
R421 100
R422 10K
C407 47/16
C415 0.01Z
C416 0.01Z
V-2
V-1
R431 100
C418 100/10
C417 47/16
R432 10K
R437 510
R438 560
C420 47/16
C405 47/16
C406 100/10
R427 100
R428 10K
C404 47/16
R444
C423 47/16
S-MONI. DET
1U-2951-1
S-VIDEO_UNIT
1U-2951
C-VIDEO
JK301
JK302
JK303
C325 0.1Z
C301 1/50
C326 0.1Z
C302 1/50
C327 0.1Z
C303 1/50
SOURCE
W301
C304 0.1Z
C305 47/16
R301 75
R302 75
R303 75
R304 75
R305 75
R306 75
R307 22K
R308 75
R309 22K
R310 75
R311 22K
R312 75
R313 22K
VDPV
TVV
V-AUXV
VCR-1V
VCR-2V
IC301 MC14577CP
IC302 MC14577CP
IC303 MC14577CP
IC304 TC4051BP
IC305 TC4051BP
IC306 HD14066BP
IC307 HD14066BP
IC308 MC14577CP
INA2
INB2
INC2
RECA2
RECB2
RECC2
C313 0.01Z
C314 0.01Z
C315 0.01Z
C316 0.01Z
R328 100
C323 100/10
R329 10K
R330 510
R331 620
R322 10K
R323 100
C310 47/16
R321 100
R320 10K
C309 47/16
C311 0.01Z
C312 0.01Z
V-2-2
V-1-2
R324 100
C321 100/10
C317 47/16
R325 10K
R326 510
R327 560
C318 47/16
C308 47/16
R317 100
R316 10K
C307 47/16
R318 10K
R319 20K
R315 100
R314 10K
C306 47/16
C319 0.01Z
C320 0.01Z
R332 100
R333 10K
R334 100
+6.0V
-6.0V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A
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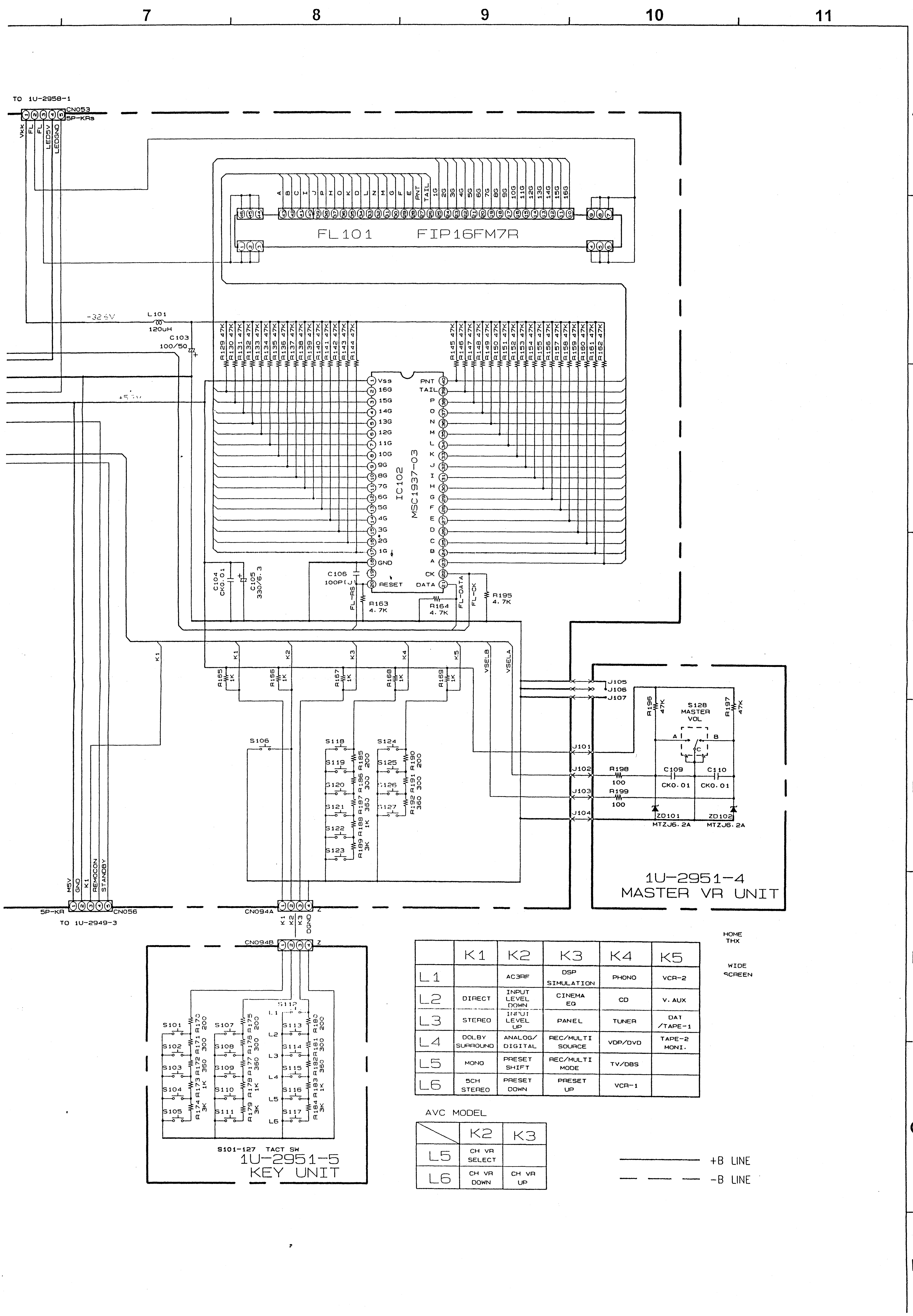
'O 1U-2958-1
CN053
5P-KRs
Vkk
FL
FL
LED5V
LEDGND
FL101
FIP16FM7R
A B C I J P H O K D L N M G F E PNT TAIL 1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 11G 12G 13G 14G 15G 16G
-32.6V
L101
120uH
C103
100/50
+5.3V
R129 47K
R130 47K
R131 47K
R132 47K
R133 47K
R134 47K
R135 47K
R136 47K
R137 47K
R138 47K
R139 47K
R140 47K
R141 47K
R142 47K
R143 47K
R144 47K
R145 47K
R146 47K
R147 47K
R148 47K
R149 47K
R150 47K
R151 47K
R152 47K
R153 47K
R154 47K
R155 47K
R156 47K
R157 47K
R158 47K
R159 47K
R160 47K
R161 47K
R162 47K
IC102
MSC1937-03
Vss 16G 15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G GND RESET
PNT TAIL P O N M L K J I H G F E D C B A CK DATA
C104
CK0.01
C105
330/6.3
C106
100P(J)
FL-RS
R163
4.7K
R164
4.7K
FL-DATA
FL-CK
R195
4.7K
K1
K2
K3
K4
K5
VSELB
VSELA
R165 1K
R166 1K
R167 1K
R168 1K
R169 1K
S106
S118
S119
S120
S121
S122
S123
R185 200
R186 300
R187 350
R188 1K
R189 3K
S124
S125
S126
S127
R190 200
R191 300
R192 360
M5V
GND
K1
REMOCON
STANDBY
5P-KR
CN056
TO 1U-2949-3
CN094A
K1 K2 K3 DGND
Z
CN094B
J105
J106
J107
J101
J102
J103
J104
R196 47K
R197 47K
S128
MASTER
VOL
A
B
C
R198
100
R199
100
C109
CK0.01
C110
CK0.01
ZD101
MTZJ6.2A
ZD102
MTZJ6.2A
1U-2951-4
MASTER VR UNIT
S101
S102
S103
S104
S105
R170 200
R171 300
R172 360
R173 1K
R174 3K
S107
S108
S109
S110
S111
R175 200
R176 300
R177 360
R178 1K
R179 3K
S112
S113
S114
S115
S116
S117
L1 L2 L3 L4 L5 L6
R180 200
R181 300
R182 360
R183 1K
R184 3K
S101-127 TACT SW
1U-2951-5
KEY UNIT
HOME
THX
WIDE
SCREEN
+B LINE
-B LINE

	K1	K2	K3	K4	K5
L1		AC3RF	DSP SIMULATION	PHONO	VCR-2
L2	DIRECT	INPUT LEVEL DOWN	CINEMA EQ	CD	V. AUX
L3	STEREO	INPUT LEVEL UP	PANEL	TUNER	DAT /TAPE-1
L4	DOLBY SURROUND	ANALOG/ DIGITAL	REC/MULTI SOURCE	VDP/DVD	TAPE-2 MONI.
L5	MONO	PRESET SHIFT	REC/MULTI MODE	TV/DBS	
L6	5CH STEREO	PRESET DOWN	PRESET UP	VCR-1	

AVC MODEL

	K2	K3
L5	CH VR SELECT	
L6	CH VR DOWN	CH VR UP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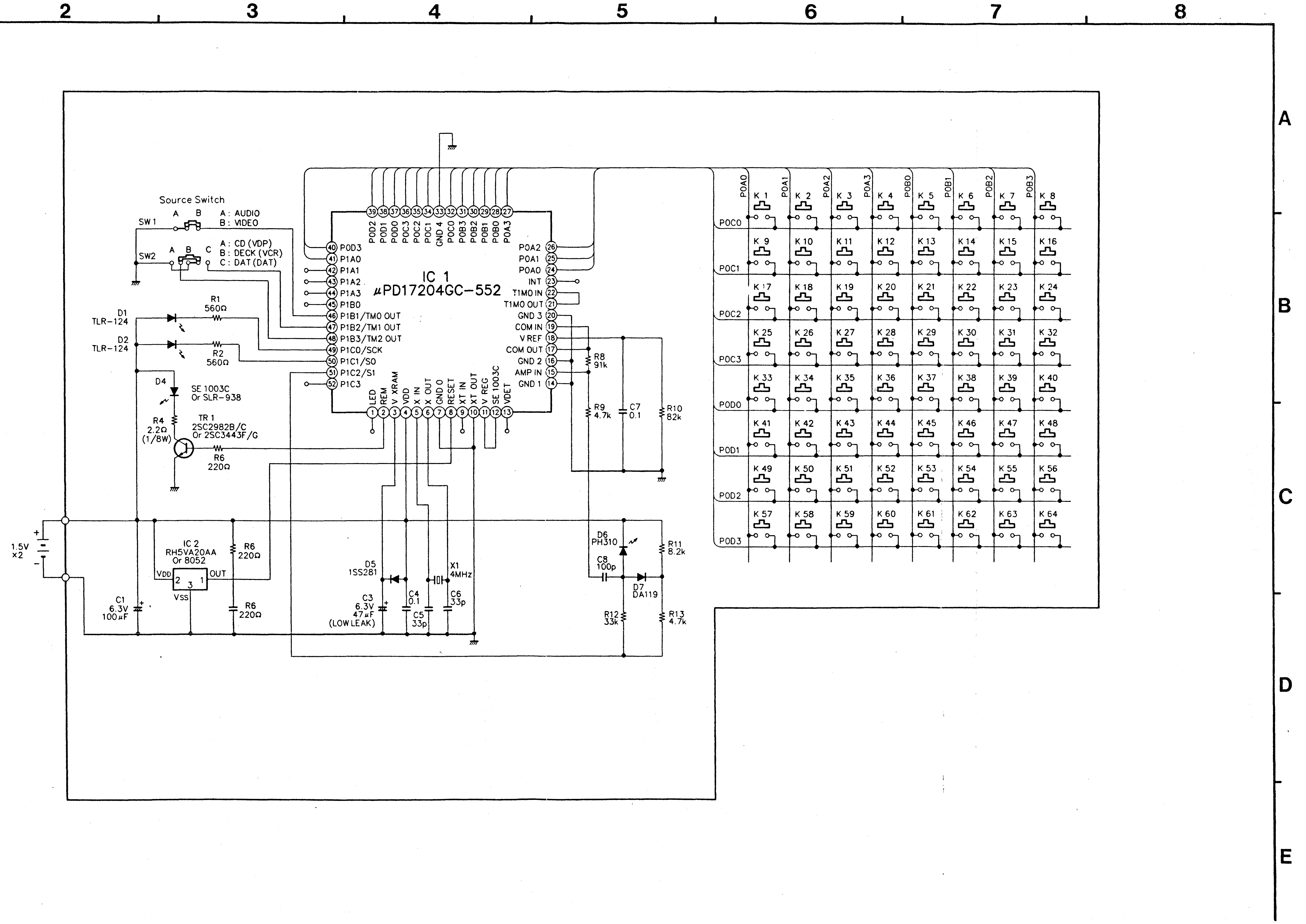
A
B
C
D
E
F
G
H
TO 1U-2958-1
CN053
5P-KRs
Vkk
FL
FL
LED5V
LEDGND
FL101 FIP16FM7R
A
B
C
I
J
P
H
O
K
D
L
N
M
G
F
E
PNT
TAIL
1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
11G
12G
13G
14G
15G
16G
-32.5V
L101
120uH
C103
100/50
+5.1V
R129 47K
R130 47K
R131 47K
R132 47K
R133 47K
R134 47K
R135 47K
R136 47K
R137 47K
R138 47K
R139 47K
R140 47K
R141 47K
R142 47K
R143 47K
R144 47K
R145 47K
R146 47K
R147 47K
R148 47K
R149 47K
R150 47K
R151 47K
R152 47K
R153 47K
R154 47K
R155 47K
R156 47K
R157 47K
R158 47K
R159 47K
R160 47K
R161 47K
R162 47K
IC102
MSC1937-03
Vss
RESET
GND
CK
DATA
C104
CK0.01
C105
330/6.3
C106
100P(J)
FL-RS
R163
4.7K
R164
4.7K
FL-DATA
FL-CK
R195
4.7K
K1
K2
K3
K4
K5
R165 1K
R156 1K
R167 1K
R168 1K
R169 1K
VSELB
VSELA
S106
S118
S119
S120
S121
S122
S123
R185 200
R186 300
R187 350
R188 1K
R189 3K
S124
S125
S126
S127
R190 200
R191 300
R192 360
J105
J106
J107
J101
J102
J103
J104
R196
47K
R197
47K
S128
MASTER
VOL
A
B
C
R198
100
R199
100
C109
CK0.01
C110
CK0.01
ZD101
MTZJ6.2A
ZD102
MTZJ6.2A
1U-2951-4
MASTER VR UNIT
M5V
GND
K1
REMOCON
STANDBY
5P-KR
CN056
TO 1U-2949-3
CN094A
K1
K2
K3
DGND
Z
CN094B
S101
S102
S103
S104
S105
R170 200
R171 300
R172 350
R173 1K
R174 3K
S107
S108
S109
S110
S111
R175 200
R176 300
R177 360
R178 1K
R179 3K
S112
L1
L2
L3
L4
L5
L6
S113
S114
S115
S116
S117
R180 200
R181 300
R182 360
R183 1K
R184 3K
S101-127 TACT SW
1U-2951-5
KEY UNIT
HOME
THX
WIDE
SCREEN
+B LINE
-B LINE

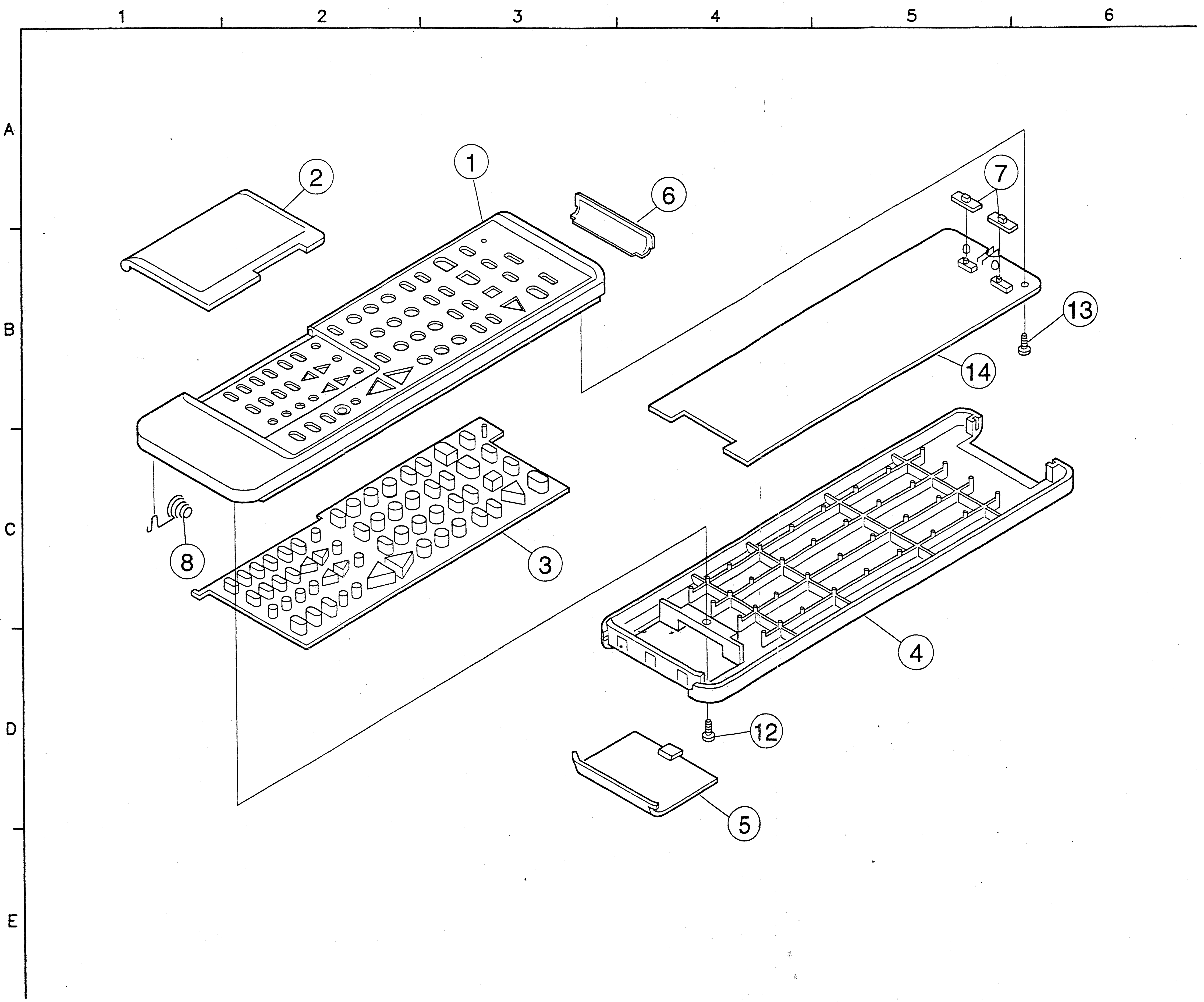
	K1	K2	K3	K4	K5
L1		AC3RF	DSP SIMULATION	PHONO	VCR-2
L2	DIRECT	INPUT LEVEL DOWN	CINEMA EQ	CD	V. AUX
L3	STEREO	INPUT LEVEL UP	PANEL	TUNER	DAT /TAPE-1
L4	DOLBY SURROUND	ANALOG/ DIGITAL	REC/MULTI SOURCE	VDP/DVD	TAPE-2 MONI.
L5	MONO	PRESET SHIFT	REC/MULTI MODE	TV/DBS	
L6	5CH STEREO	PRESET DOWN	PRESET UP	VCR-1	

AVC MODEL

	K2	K3
L5	CH VR SELECT	
L6	CH VR DOWN	CH VR UP

REMOTE CONTROL UNIT (RC-820)

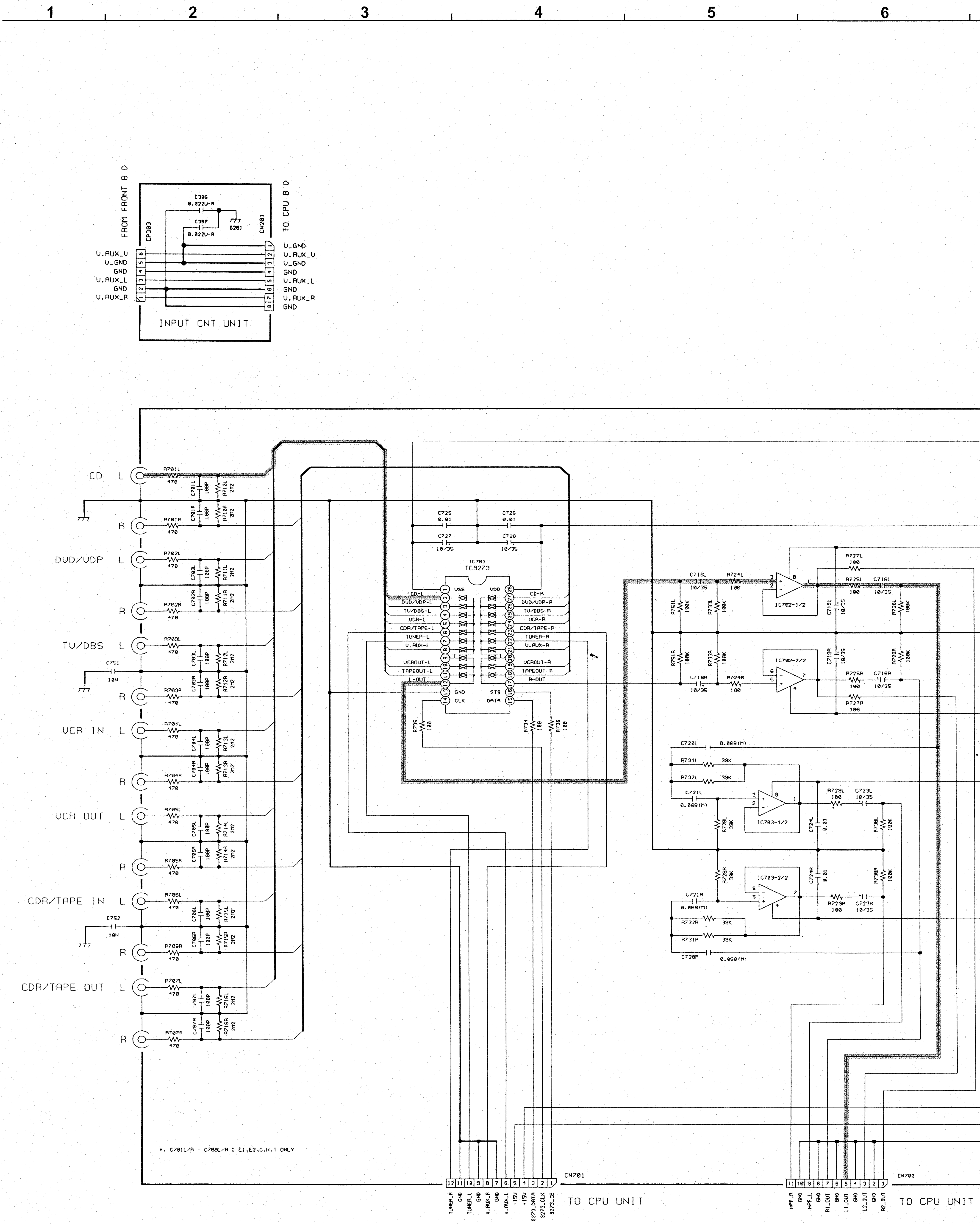

1
2
3
4
5
6
7
8
A
B
C
D
E
Source Switch
SW1
A B
A : AUDIO
B : VIDEO
SW2
A B C
A : CD (VDP)
B : DECK (VCR)
C : DAT (DAT)
IC 1
μPD17204GC-552
P0D2 P0D1 P0D0 P0C3 P0C2 P0C1 GND 4 P0C0 P0B3 P0B2 P0B1 P0B0 P0A3
P0D3
P1A0
P1A1
P1A2
P1A3
P1B0
P1B1/TM0 OUT
P1B2/TM1 OUT
P1B3/TM2 OUT
P1C0/SCK
P1C1/S0
P1C2/S1
P1C3
P0A2
P0A1
P0A0
INT
T1M0 IN
T1M0 OUT
GND 3
COM IN
V REF
COM OUT
GND 2
AMP IN
GND 1
LED REM V XRAM VDD X IN X OUT GND 0 RESET XT IN XT OUT V REG SE 1003C VDET
D1
TLR-124
D2
TLR-124
R1
560Ω
R2
560Ω
D4
SE 1003C
Or SLR-938
R4
2.2Ω
(1/8W)
TR 1
2SC2982B/C
Or 2SC3443F/G
R6
220Ω
R8
91k
R9
4.7k
C7
0.1
R10
82k
1.5V
×2
IC 2
RH5VA20AA
Or 8052
VDD
OUT
VSS
R6
220Ω
R6
220Ω
C1
6.3V
100μF
D5
1SS281
C3
6.3V
47μF
(LOW LEAK)
C4
0.1
C5
33p
X1
4MHz
C6
33p
D6
PH310
C8
100p
D7
DA119
R11
8.2k
R12
33k
R13
4.7k
P0A0 P0A1 P0A2 P0A3 P0B0 P0B1 P0B2 P0B3
P0C0
P0C1
P0C2
P0C3
P0D0
P0D1
P0D2
P0D3
K 1 K 2 K 3 K 4 K 5 K 6 K 7 K 8
K 9 K 10 K 11 K 12 K 13 K 14 K 15 K 16
K 17 K 18 K 19 K 20 K 21 K 22 K 23 K 24
K 25 K 26 K 27 K 28 K 29 K 30 K 31 K 32
K 33 K 34 K 35 K 36 K 37 K 38 K 39 K 40
K 41 K 42 K 43 K 44 K 45 K 46 K 47 K 48
K 49 K 50 K 51 K 52 K 53 K 54 K 55 K 56
K 57 K 58 K 59 K 60 K 61 K 62 K 63 K 64

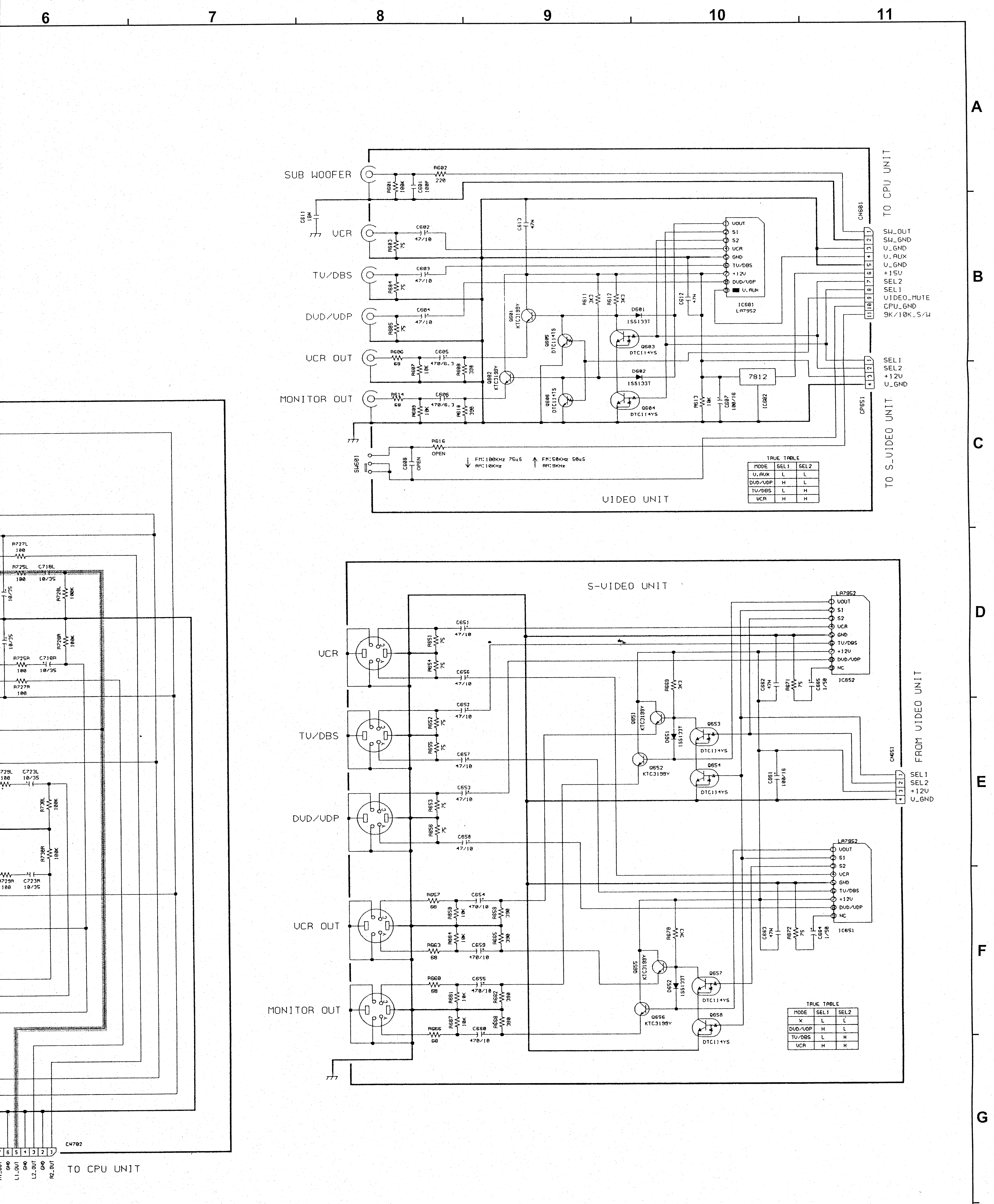


PARTS LIST OF REMOTE CONTROL UNIT (RC-820)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	9H3 1000 164	Top Case (RC820) Ass'y		1s
◉ 2	9H3 100 0 168	Cover		1
◉ 3	9H3 1000 169	Switch Rubber		1
◉ 4	9H3 1000 166	Bottom Case		1
◉ 5	9H3 1000 167	Battery Cover		1
◉ 6	9H3 1000 148	Filter		1
7	9H3 1000 150	Slide Knob		2
8	9H3 1000 152	Coil Spring		1
9	—	—		
10	—	—		
11	—	—		
12	9H3 1000 154	Tapping Screw 2x6		1
13	9H3 1000 107	Tapping Screw 2x5		1
14	9H3 1000 161	Main P.W.B. Ass'y		1s
IC1	9H3 1000 162	IC µPD17204GC-552	µ-Com	1
IC2	9H3 1000 158	IC RH5VA10AA	vol. Detector	1
Q1	9H8 1000 070	Transistor 2SC2982	Chip	1
D1,2	9H3 1000 028	LED TLR124	Visible-Red	2
D4	9H3 1000 131	LED SE1003-C	Inflared	1
D5	9H3 1000 087	Diode 1SS2B1		1
D6	9H3 1000 029	Diode PH310	Photo-PIN	1
D7	9H3 1000 071	Diode DA119	Chip	1
X1	9H3 1000 088	Ceramic Resonator	KBR4, 0M503	1
SW1	9H3 1000 089	Slide Switch		1
SW2	9H3 1000 074	Slide Switch		1
C1	254 4213 034	Electrolytic 100µF/6.3V	CE04W0J101M	1
C3	254 4213 021	Electrolytic 47µF/6.3V	CE04W0J470M	1

SCHEMATIC DIAGRAMS (1/7)


1
2
3
4
5
6
FROM FRONT B'D
CP303
C306
0.022U-R
C307
0.022U-R
6201
CN201
TO CPU B'D
V.AUX_V
V_GND
GND
V.AUX_L
GND
V.AUX_R
V_GND
V.AUX_V
V_GND
GND
V.AUX_L
GND
V.AUX_R
GND
INPUT CNT UNIT
CD L
R
DVD/VDP L
R
TU/DBS L
R
VCR IN L
R
VCR OUT L
R
CDR/TAPE IN L
R
CDR/TAPE OUT L
R
C751
10N
C752
10N
R701L 470
R701R 470
R702L 470
R702R 470
R703L 470
R703R 470
R704L 470
R704R 470
R705L 470
R705R 470
R706L 470
R706R 470
R707L 470
R707R 470
C701L 100P
C701R 100P
C702L 100P
C702R 100P
C703L 100P
C703R 100P
C704L 100P
C704R 100P
C705L 100P
C705R 100P
C706L 100P
C706R 100P
C707L 100P
C707R 100P
R710L 2M2
R710R 2M2
R711L 2M2
R711R 2M2
R712L 2M2
R712R 2M2
R713L 2M2
R713R 2M2
R714L 2M2
R714R 2M2
R715L 2M2
R715R 2M2
R716L 2M2
R716R 2M2
C725 0.01
C726 0.01
C727 10/35
C728 10/35
IC701
TC9273
CD-L
DVD/VDP-L
TU/DBS-L
VCR-L
CDR/TAPE-L
TUNER-L
V.AUX-L
VCROUT-L
TAPEOUT-L
L-OUT
VSS
VDD
GND
CLK
STB
DATA
CD-R
DVD/VDP-R
TU/DBS-R
VCR-R
CDR/TAPE-R
TUNER-R
V.AUX-R
VCROUT-R
TAPEOUT-R
R-OUT
R735 100
R734 100
R736 100
C716L 10/35
C716R 10/35
R724L 100
R724R 100
R751L 100K
R751R 100K
R733L 100K
R733R 100K
IC702-1/2
IC702-2/2
R727L 100
R727R 100
R725L 100
R725R 100
C718L 10/35
C718R 10/35
C719L 10/35
C719R 10/35
R728L 100K
R728R 100K
C720L 0.068(M)
C720R 0.068(M)
R731L 39K
R731R 39K
R732L 39K
R732R 39K
C721L 0.068(M)
C721R 0.068(M)
R730L 39K
R730R 39K
IC703-1/2
IC703-2/2
R729L 100
R729R 100
C723L 10/35
C723R 10/35
C724L 0.01
C724R 0.01
R730L 100K
R730R 100K
*. C701L/R - C708L/R : E1,E2,C,H,1 ONLY
CN701
TUNER_R
GND
TUNER_L
GND
V.AUX_R
GND
V.AUX_L
-15V
+15V
9273_DATA
9273_CLK
9273_CE
TO CPU UNIT
CN702
HPF_R
GND
HPF_L
GND
R1_OUT
GND
L1_OUT
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT


6
7
8
9
10
11
A
B
C
D
E
F
G
SUB WOOFER
VCR
TV/DBS
DVD/VDP
VCR OUT
MONITOR OUT
R601 100K
C601 100P
R602 220
C611 10N
R603 75
C602 47/10
R604 75
C603 47/10
R605 75
C604 47/10
R606 68
R607 10K
C605 470/6.3
R608 390
R614 68
R609 10K
C606 470/6.3
R610 390
C613 47N
Q601 KTC3199Y
Q602 KTC3199Y
Q605 DTC114TS
Q606 DTC114TS
R611 3K3
R612 3K3
D601 1SS133T
D602 1SS133T
Q603 DTC114YS
Q604 DTC114YS
C612 47N
R613 10K
C607 100/16
IC602
7812
IC601 LA7952
VOUT
S1
S2
VCR
GND
TV/DBS
+12V
DVD/VDP
V.AUX
CN601
TO CPU UNIT
SW_OUT
SW_GND
V_GND
V.AUX
V_GND
+15V
SEL2
SEL1
VIDEO_MUTE
CPU_GND
9K/10K_S/W
CP651
SEL1
SEL2
+12V
V_GND
TO S_VIDEO UNIT
SW601
C608 OPEN
R616 OPEN
↓ FM:100KHz 75uS AM:10KHz
↑ FM:50KHz 50uS AM:9KHz
VIDEO UNIT
S-VIDEO UNIT
C651 47/10
R651 75
R654 75
C656 47/10
C652 47/10
R652 75
R655 75
C657 47/10
C653 47/10
R653 75
R656 75
C658 47/10
R657 68
R658 10K
C654 470/10
R659 390
R663 68
R664 10K
C659 470/10
R665 390
R660 68
R661 10K
C655 470/10
R662 390
R666 68
R667 10K
C660 470/10
R668 390
R669 3K3
Q651 KTC3199Y
D651 1SS133T
Q652 KTC3199Y
Q653 DTC114YS
Q654 DTC114YS
R670 3K3
Q655 KTC3199Y
D652 1SS133T
Q656 KTC3199Y
Q657 DTC114YS
Q658 DTC114YS
LA7952
IC652
IC651
NC
C662 47N
R671 75
C665 1/50
C661 100/16
C663 47N
R672 75
C664 1/50
CN651
FROM VIDEO UNIT
R727L 100
R725L 100
C718L 10/35
R728L 100K
R728R 100K
R725R 100
C718R 10/35
R727R 100
R729L 100
C723L 10/35
R730L 100K
R730R 100K
R729R 100
C723R 10/35
CN702
L1_OUT
GND
L2_OUT
GND
R2_OUT
TO CPU UNIT

TRUE TABLE

MODE	SEL1	SEL2
V.AUX	L	L
DVD/VDP	H	L
TV/DBS	L	H
VCR	H	H

TRUE TABLE

MODE	SEL1	SEL2
X	L	L
DVD/VDP	H	L
TV/DBS	L	H
VCR	H	H

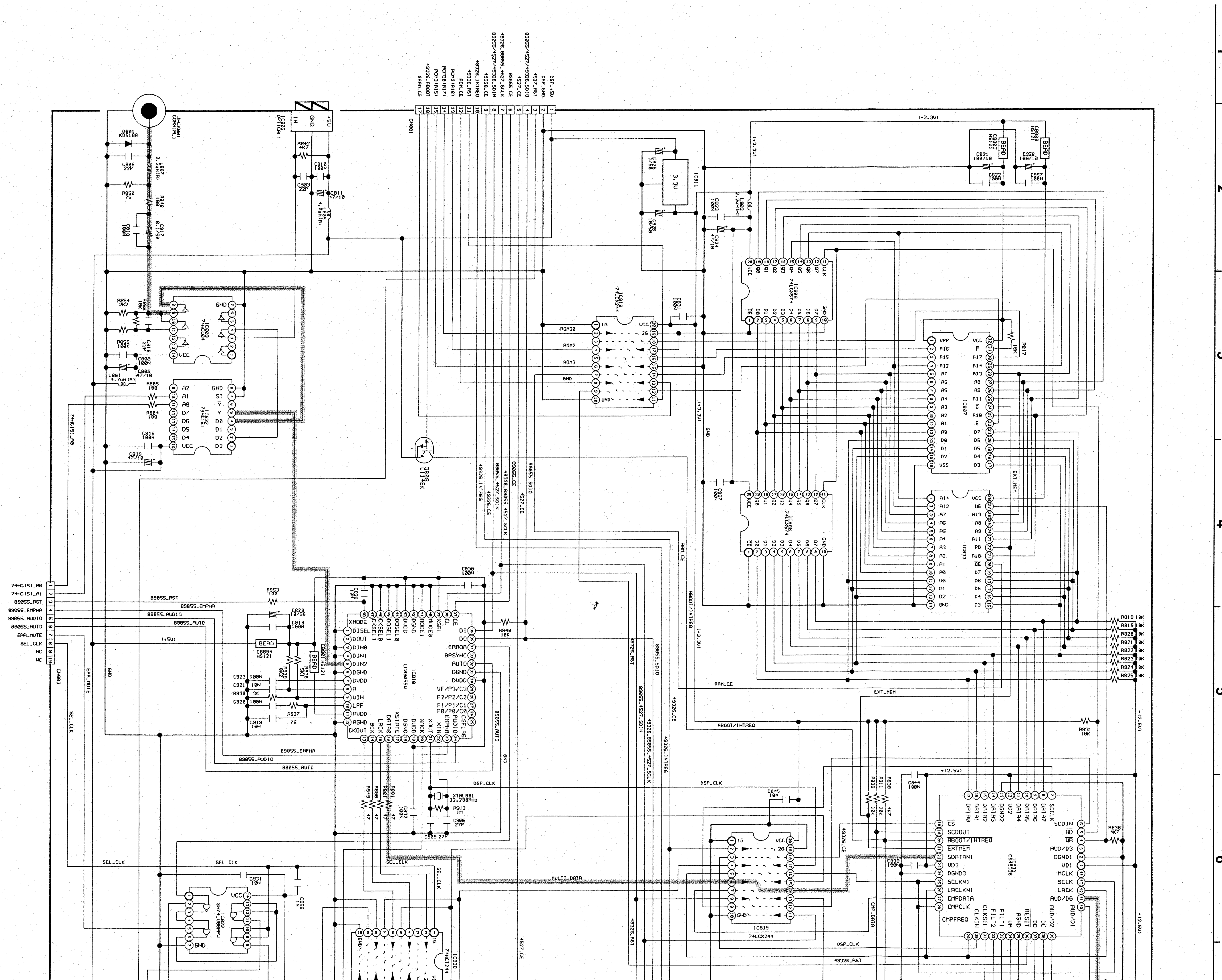
▨ SIGNAL LINE

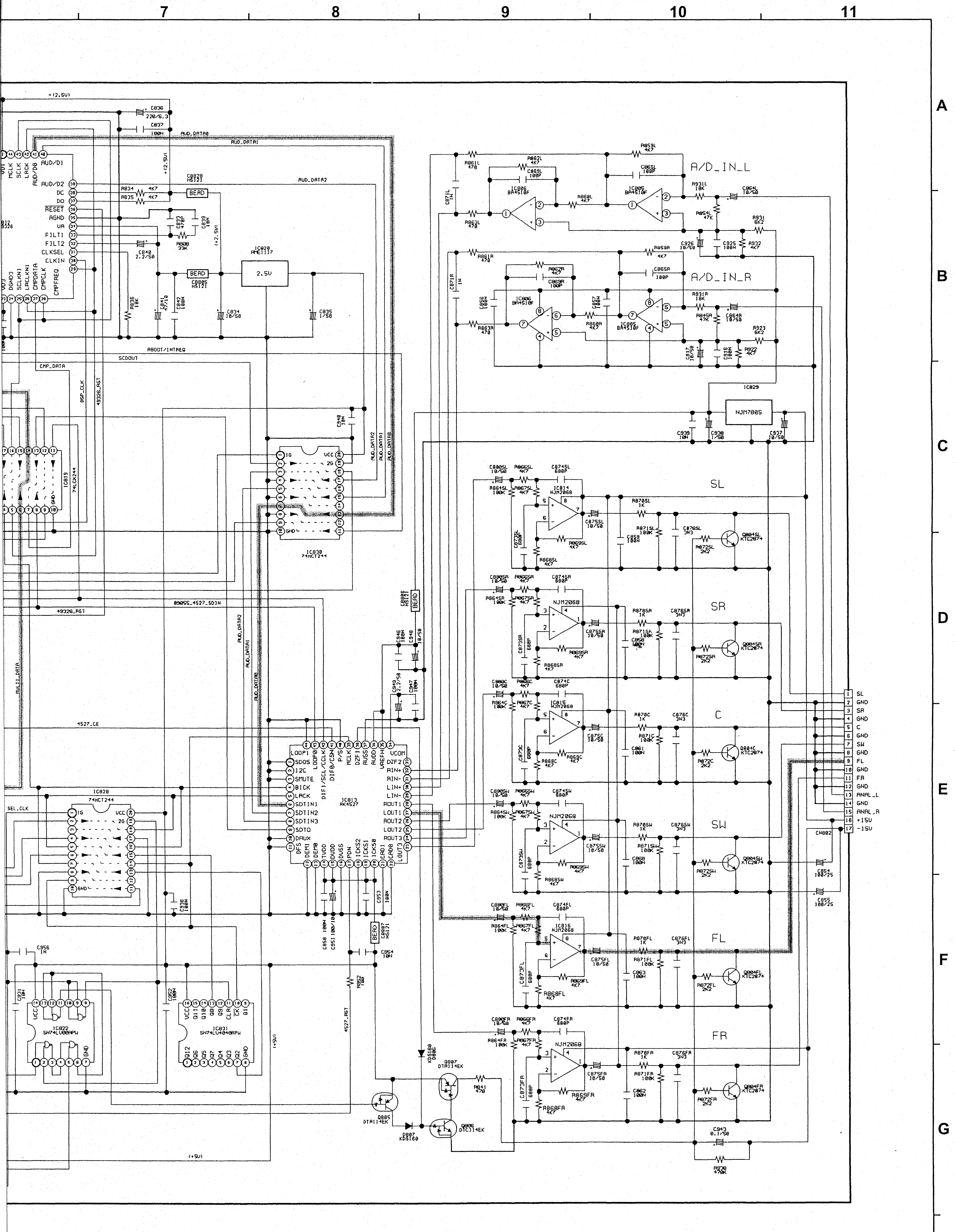
H

SCHEMATIC DIAGRAMS (1/7)

INPUT UNIT
C-VIDEO UNIT
S-VIDEO UNIT
INPUT CNT UNIT

SCHEMATIC DIAGRAMS (2/7)

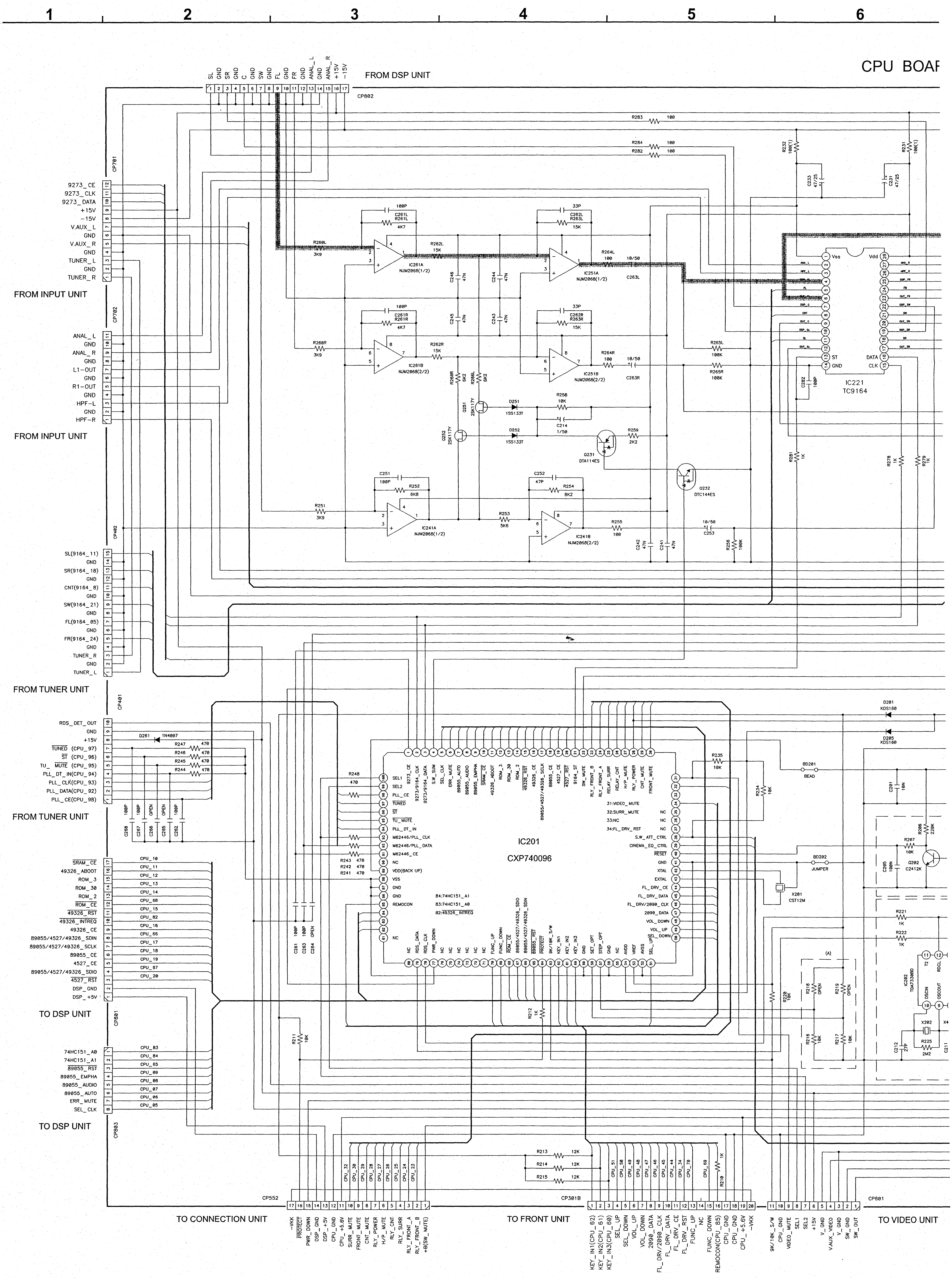

1
2
3
4
5
6
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_AUDIO
89055_AUTO
EAR_MUTE
SEL_CLK
NC
NC
CN803
JACK801 COAXIAL
IC802 OPTICAL
CN801
IC803 74HCU04
IC872 74HC151
IC818 74LCX244
IC811 3.3V
IC808 74LCX574
IC809 74LCX574
IC807
IC833
IC810 LC89055W
IC812 CS4926
IC819 74LCX244
IC822 SN74LC08APW
IC820 74HC244
XTAL801 12.288MHz
Q808 C1914EK
RAM_CE
EXT_MEM
ABOOT/INTREQ
DSP_CLK
49326_RST
MULTI_DATA
SEL_CLK
ROM30
ROM2
ROM3
GND
(+3.3V)
(+2.5V)
(+5V)
BEAD

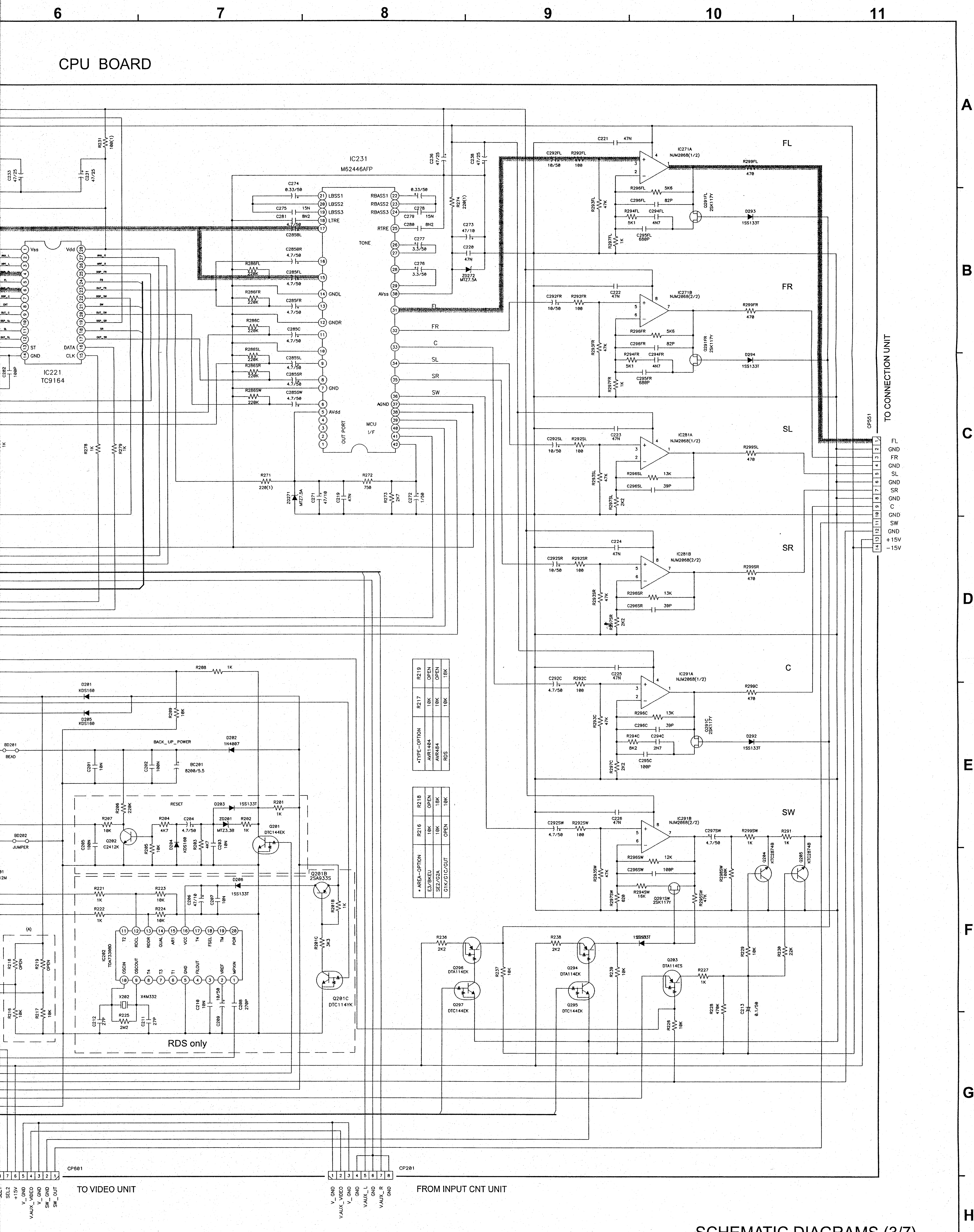

7
8
9
10
11
A
B
C
D
E
F
G
H
A/D_IN_L
A/D_IN_R
IC806 BA4510F
IC805 BA4510F
IC829 NJM7805
IC820 AME1117
2.5V
IC830 74HCT244
IC819 74LCX244
IC813 AK4527
IC828 74HCT244
IC822 SN74LV00APW
IC831 SN74LV4040APW
IC814 NJM2068
IC815 NJM2068
IC816 NJM2068
SL
SR
C
SW
FL
FR
Q804SL KTC2874
Q804SR KTC2874
Q804C KTC2874
Q804SW KTC2874
Q804FL KTC2874
Q804FR KTC2874
Q805 DTA114EK
Q806 DTC114EK
Q807 DTA114EK
D806 KDS160
D807 KDS160
BEAD
AUD_DATA0
AUD_DATA1
AUD_DATA2
MULTI_DATA
SCDOUT
ABOOT/INTREQ
CMP_DATA
DSP_CLK
49326_RST
89055_4527_SDIN
4527_CE
4527_RST
SEL_CLK
+(2.5V)
(+5V)
CN802
1 SL
2 GND
3 SR
4 GND
5 C
6 GND
7 SW
8 GND
9 FL
10 GND
11 FR
12 GND
13 ANAL_L
14 GND
15 ANAL_R
16 +15V
17 -15V

SIGNAL LINE

SCHEMATIC DIAGRAMS (2/7)
DSP UNIT

SCHEMATIC DIAGRAMS (3/7)


1
2
3
4
5
6
CPU BOAF
FROM DSP UNIT
CP802
SL
GND
SR
GND
C
GND
SW
GND
FL
GND
FR
GND
ANAL_L
GND
ANAL_R
+15V
-15V
CP701
9273_CE
9273_CLK
9273_DATA
+15V
-15V
V.AUX_L
GND
V.AUX_R
GND
TUNER_L
GND
TUNER_R
FROM INPUT UNIT
CP702
ANAL_L
GND
ANAL_R
GND
L1-OUT
GND
R1-OUT
GND
HPF-L
GND
HPF-R
FROM INPUT UNIT
CP402
SL(9164_11)
GND
SR(9164_18)
GND
CNT(9164_8)
GND
SW(9164_21)
GND
FL(9164_05)
GND
FR(9164_24)
GND
TUNER_R
GND
TUNER_L
FROM TUNER UNIT
CP401
RDS_DET_OUT
GND
+15V
TUNED (CPU_97)
ST (CPU_96)
TU_MUTE (CPU_95)
PLL_DT_IN(CPU_94)
PLL_CLK(CPU_93)
PLL_DATA(CPU_92)
PLL_CE(CPU_98)
FROM TUNER UNIT
D261 1N4007
R247 470
R246 470
R245 470
R244 470
C268 100P
C267 100P
C266 OPEN
C265 OPEN
C262 100P
CP801
SRAM_CE
49326_ABOOT
ROM_3
ROM_30
ROM_2
ROM_CE
49326_RST
49326_INTREQ
49326_CE
89055/4527/49326_SDIN
89055/4527/49326_SCLK
89055_CE
4527_CE
89055/4527/49326_SDIO
4527_RST
DSP_GND
DSP_+5V
TO DSP UNIT
CPU_10
CPU_11
CPU_12
CPU_13
CPU_14
CPU_68
CPU_15
CPU_82
CPU_16
CPU_66
CPU_17
CPU_18
CPU_19
CPU_67
CPU_20
CP803
74HC151_A0
74HC151_A1
89055_RST
89055_EMPHA
89055_AUDIO
89055_AUTO
ERR_MUTE
SEL_CLK
TO DSP UNIT
CPU_83
CPU_84
CPU_65
CPU_09
CPU_08
CPU_07
CPU_06
CPU_05
R283 100
R284 100
R282 100
R232 100(1)
R231 100(1)
C233 47/25
C231 47/25
C261L 100P
R261L 4K7
R260L 3K9
R262L 15K
IC261A NJM2068(1/2)
C262L 33P
R263L 15K
IC251A NJM2068(1/2)
R264L 100
10/50
C263L
C246 47N
C244 47N
C245 47N
C243 47N
C261R 100P
R261R 4K7
R260R 3K9
R262R 15K
IC261B NJM2068(2/2)
C262R 33P
R263R 15K
IC251B NJM2068(2/2)
R264R 100
10/50
C263R
R265L 100K
R265R 100K
R266R 6K2
R266L 6K2
Q251 2SK117Y
Q252 2SK117Y
D251 1SS133T
D252 1SS133T
R258 10K
C214 1/50
Q231 DTA114ES
R259 2K2
Q232 DTC144ES
C251 100P
R252 6K8
R251 3K9
IC241A NJM2068(1/2)
C252 47P
R254 8K2
R253 5K6
IC241B NJM2068(2/2)
R255 100
C242 47N
C241 47N
10/50
C253
R256 100K
IC221 TC9164
Vss
Vdd
ST
GND
DATA
CLK
C282 100P
R281 1K
R278 1K
R279 1K
IC201
CXP740096
SEL1
SEL2
PLL_CE
TUNED
ST
TU_MUTE
PLL_DT_IN
M62446/PLL_CLK
M62446/PLL_DATA
M62446_CE
NC
VDD(BACK UP)
VSS
GND
GND
REMOCON
84:74HC151_A1
83:74HC151_A0
82:49326_INTREQ
NC
9273_CE
9273/9164_CLK
9273/9164_DATA
S.W_SUM
SEL_CLK
ERR_MUTE
89055_AUTO
89055_AUDIO
89055_EMPHA
SRAM_CE
49326_ABOOT
ROM_3
ROM_30
ROM_2
49326_RST
49326_CE
89055/4527/49326_SCLK
89055_CE
4527_CE
4527_RST
9164_ST
SW_MUTE
RLY_FRONT_B
RLY_FRONT_A
RELAY_SURR
RELAY_CNT
H/P_MUTE
RLY_POWER
CNT_MUTE
FRONT_MUTE
31:VIDEO_MUTE
32:SURR_MUTE
33:NC
34:FL_DRV_RST
NC
S.W_ATT_CTRL
CINEMA_EQ_CTRL
RESET
GND
XTAL
EXTAL
FL_DRV_CE
FL_DRV_DATA
FL_DRV/2090_CLK
2090_DATA
VOL_DOWN
VOL_UP
SEL_DOWN
SEL_UP
NC
RDS_DATA
RDS_CLK
PWR_DOWN
FUNC_UP
FUNC_DOWN
ROM_CE
89055/4527/49326_SDIO
89055/4527/49326_SDIN
89055_RST
PROTECT
9K/10K_S/W
KEY_IN1
KEY_IN2
KEY_IN3
GND
SET_OPT
STEP_OPT
AVDD
VREF
AVSS
R248 470
R243 470
R242 470
R241 470
C261 100P
C263 100P
C264 OPEN
R235 10K
R234 10K
BD201 BEAD
BD202 JUMPER
X201 CST12M
D201 KDS160
D205 KDS160
C201 10N
R206 220K
R207 10K
Q202 C2412K
C205 100N
R221 1K
R222 1K
IC202 TDA7330BD
OSCIN
OSCOUT
T2
RDCL
X202
X4
R225 2M2
C212 27P
C211
(A)
R218 OPEN
R219 OPEN
R216 10K
R217 10K
R220 10K
R212 1K
R211 10K
R213 12K
R214 12K
R215 12K
R210 1K
CP552
CPU_32
CPU_30
CPU_29
CPU_28
CPU_27
CPU_26
CPU_25
CPU_24
CPU_23
-VKK
PROTECT
PWR_DOWN
DSP_GND
DSP_+5V
CPU_GND
CPU_+5.6V
SURR_MUTE
FRONT_MUTE
CNT_MUTE
RLY_POWER
H/P_MUTE
RLY_CNT
RLY_SURR
RLY_FRONT_A
RLY_FRONT_B
+B(SW_MUTE)
TO CONNECTION UNIT
CP301B
CPU_51
CPU_50
CPU_49
CPU_48
CPU_47
CPU_46
CPU_45
CPU_44
CPU_34
CPU_70
CPU_69
KEY_IN1(CPU_62)
KEY_IN2(CPU_61)
KEY_IN3(CPU_60)
SEL_UP
SEL_DOWN
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
FUNC_UP
NC
FUNC_DOWN
REMOCON(CPU_85)
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
TO FRONT UNIT
CP601
9K/10K_S/W
CPU_GND
VIDEO_MUTE
SEL1
SEL2
+15V
V_GND
V.AUX_VIDEO
V_GND
SW_GND
SW_OUT
TO VIDEO UNIT

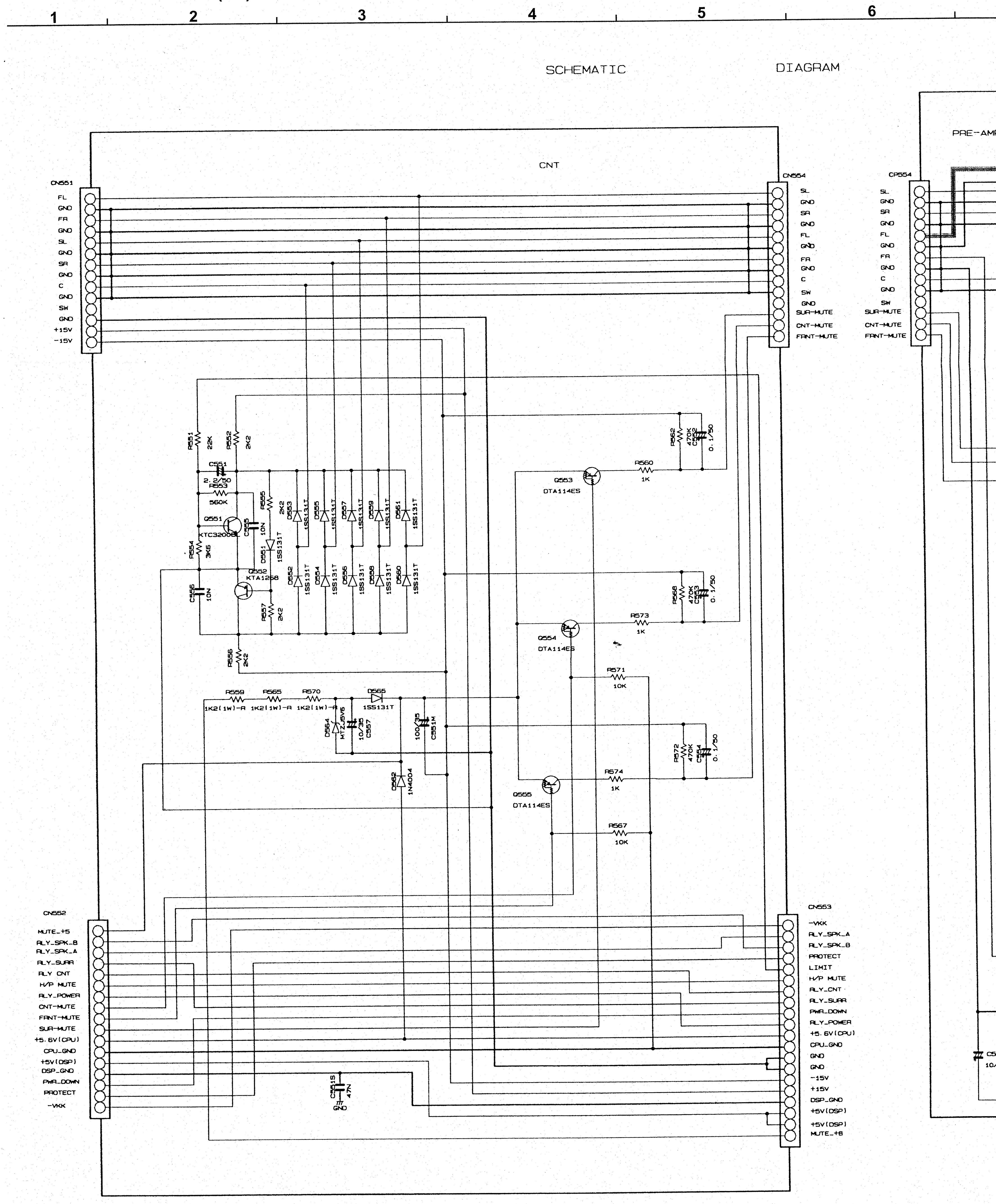

6
7
8
9
10
11
A
B
C
D
E
F
G
H
CPU BOARD
IC231
M62446AFP
TONE
OUT PORT
MCU
I/F
IC221
TC9164
IC202
TDA7330BD
RDS only
RESET
BACK_UP_POWER
BD201
BEAD
BD202
JUMPER
BC201
8200/5.5
FL
FR
SL
SR
C
SW
IC271A
NJM2068(1/2)
IC271B
NJM2068(2/2)
IC281A
NJM2068(1/2)
IC281B
NJM2068(2/2)
IC291A
NJM2068(1/2)
IC291B
NJM2068(2/2)
CP551
TO CONNECTION UNIT
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
CP601
TO VIDEO UNIT
SEL2
+15V
V_GND
V.AUX_VIDEO
V_GND
SW_GND
SW_OUT
CP201
FROM INPUT CNT UNIT
V_GND
V.AUX_VIDEO
V_GND
GND
V.AUX_L
GND
V.AUX_R
GND
SIGNAL LINE

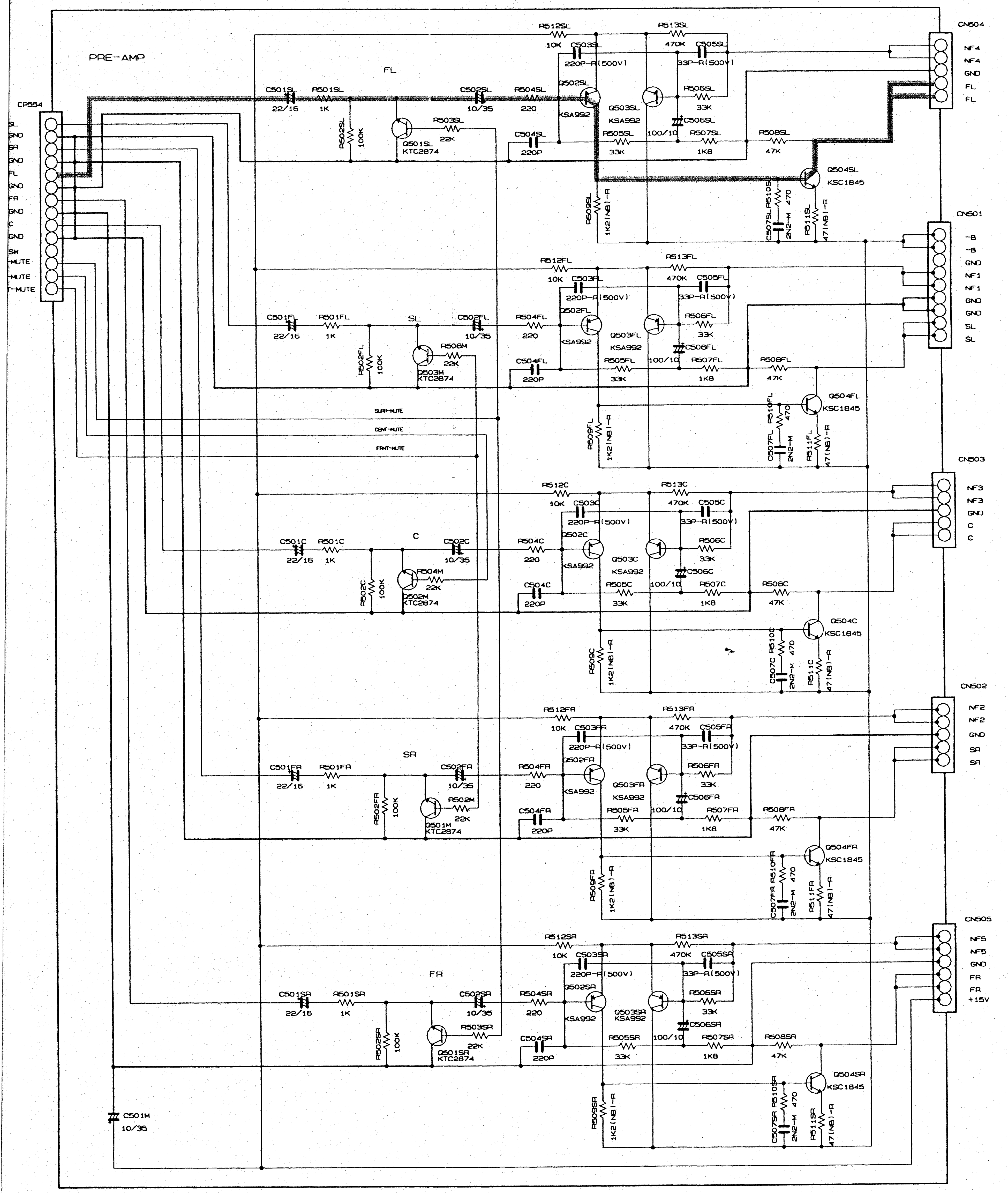
* AREA-OPTION	R216	R218
E3/BKEU	10K	OPEN
SE2/G2A	10K	18K
G1K/G1C/GUT	OPEN	10K

*TYPE-OPTION	R217	R219
AVR1404	10K	OPEN
AVR484	10K	OPEN
RDS	10K	18K

SCHEMATIC DIAGRAMS (3/7)
CPU UNIT

SCHEMATIC DIAGRAMS (4/7)

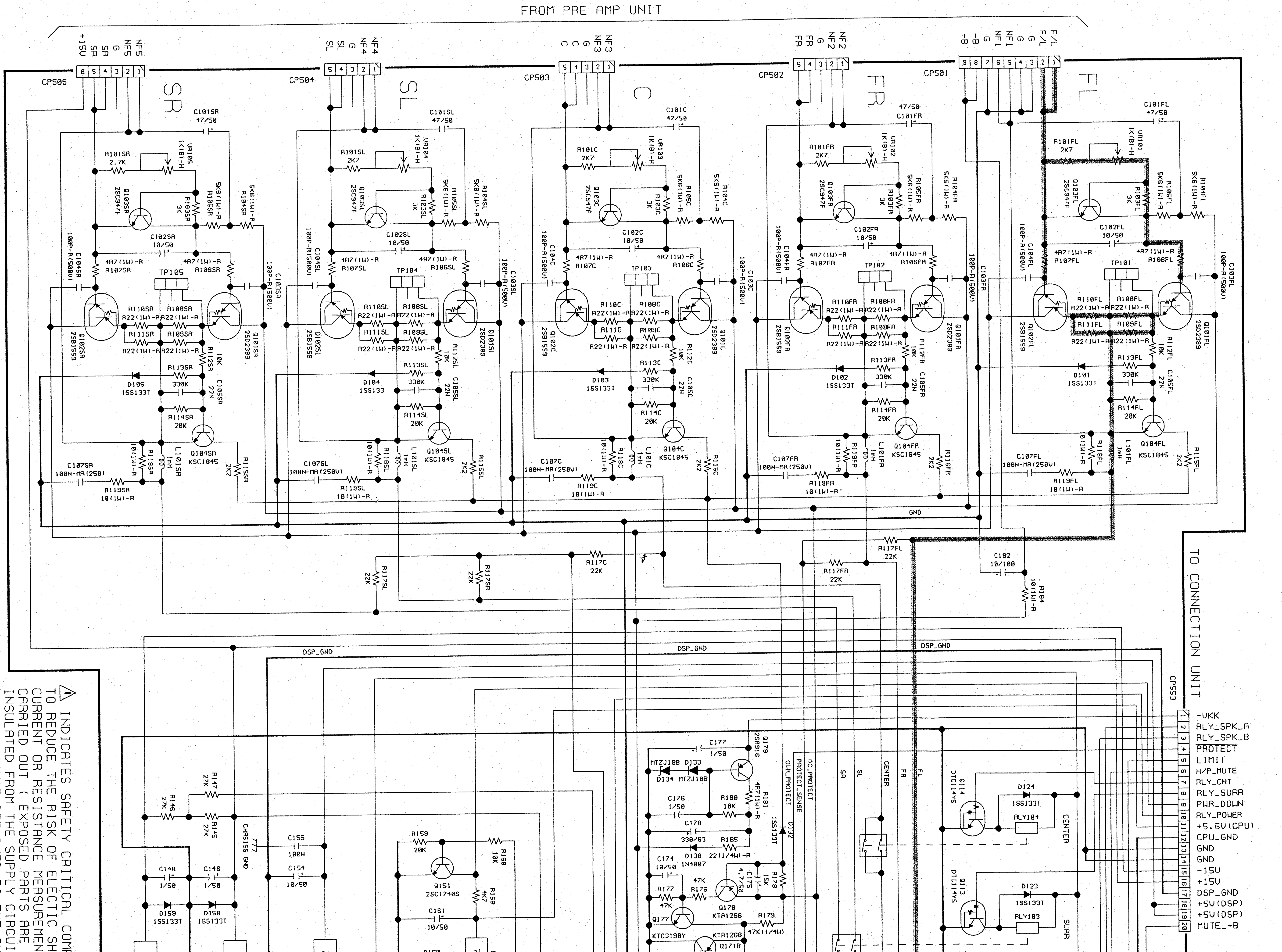

1
2
3
4
5
6
SCHEMATIC DIAGRAM
CNT
PRE-AMP
CN551
FL
GND
FR
GND
SL
GND
SR
GND
C
GND
SW
GND
+15V
-15V
CN554
SL
GND
SR
GND
FL
GND
FR
GND
C
SW
GND
SUR-MUTE
CNT-MUTE
FRNT-MUTE
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
SUR-MUTE
CNT-MUTE
FRNT-MUTE
R551
22K
R552
2K2
C551
2.2/50
R553
560K
R555
2K2
Q551
KTC3200GL
C555
10N
D551
1SS131T
R554
3K6
Q552
KTA1268
C556
10N
R557
2K2
R556
2K2
D552
D553
D554
D555
D556
D557
D558
D559
D560
D561
1SS131T
Q553
DTA114ES
R560
1K
R562
470K
C552
0.1/50
R568
470K
C553
0.1/50
R573
1K
Q554
DTA114ES
R571
10K
R559
1K2(1W)-R
R565
1K2(1W)-R
R570
1K2(1W)-R
D565
1SS131T
D564
MTZJ5V6
10/35
C557
100/35
C551M
R572
470K
C554
0.1/50
R574
1K
Q555
DTA114ES
D562
1N4004
R567
10K
C551S
47N
GND
CN552
MUTE_+5
RLY_SPK_B
RLY_SPK_A
RLY_SURR
RLY CNT
H/P MUTE
RLY_POWER
CNT-MUTE
FRNT-MUTE
SUR-MUTE
+5.6V(CPU)
CPU_GND
+5V(DSP)
DSP_GND
PWR_DOWN
PROTECT
-VKK
CN553
-VKK
RLY_SPK_A
RLY_SPK_B
PROTECT
LIMIT
H/P MUTE
RLY_CNT
RLY_SURR
PWR_DOWN
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+8
C5
10/


PRE-AMP
CP554
SL
GND
SR
GND
FL
GND
FR
GND
C
GND
SW
-MUTE
-MUTE
T-MUTE
FL
C501SL 22/16
R501SL 1K
R502SL 100K
Q501SL KTC2874
R503SL 22K
C502SL 10/35
R504SL 220
C504SL 220P
R512SL 10K
C503SL 220P-R(500V)
Q502SL KSA992
Q503SL KSA992
R513SL 470K
C505SL 33P-R(500V)
R506SL 33K
C506SL 100/10
R505SL 33K
R507SL 1K8
R508SL 47K
Q504SL KSC1845
R509SL 1K2(NB)-R
C507SL 2N2-M
R510SL 470
R511SL 47(NB)-R
CN504
NF4
NF4
GND
FL
FL
SL
C501FL 22/16
R501FL 1K
R502FL 100K
Q503M KTC2874
R506M 22K
C502FL 10/35
R504FL 220
C504FL 220P
R512FL 10K
C503FL 220P-R(500V)
Q502FL KSA992
Q503FL KSA992
R513FL 470K
C505FL 33P-R(500V)
R506FL 33K
C506FL 100/10
R505FL 33K
R507FL 1K8
R508FL 47K
Q504FL KSC1845
R509FL 1K2(NB)-R
C507FL 2N2-M
R510FL 470
R511FL 47(NB)-R
CN501
-B
-B
GND
NF1
NF1
GND
GND
SL
SL
SURR-MUTE
CENT-MUTE
FRNT-MUTE
C
C501C 22/16
R501C 1K
R502C 100K
Q502M KTC2874
R504M 22K
C502C 10/35
R504C 220
C504C 220P
R512C 10K
C503C 220P-R(500V)
Q502C KSA992
Q503C KSA992
R513C 470K
C505C 33P-R(500V)
R506C 33K
C506C 100/10
R505C 33K
R507C 1K8
R508C 47K
Q504C KSC1845
R509C 1K2(NB)-R
C507C 2N2-M
R510C 470
R511C 47(NB)-R
CN503
NF3
NF3
GND
C
C
SR
C501FR 22/16
R501FR 1K
R502FR 100K
Q501M KTC2874
R502M 22K
C502FR 10/35
R504FR 220
C504FR 220P
R512FR 10K
C503FR 220P-R(500V)
Q502FR KSA992
Q503FR KSA992
R513FR 470K
C505FR 33P-R(500V)
R506FR 33K
C506FR 100/10
R505FR 33K
R507FR 1K8
R508FR 47K
Q504FR KSC1845
R509FR 1K2(NB)-R
C507FR 2N2-M
R510FR 470
R511FR 47(NB)-R
CN502
NF2
NF2
GND
SR
SR
FR
C501SR 22/16
R501SR 1K
R502SR 100K
Q501SR KTC2874
R503SR 22K
C502SR 10/35
R504SR 220
C504SR 220P
R512SR 10K
C503SR 220P-R(500V)
Q502SR KSA992
Q503SR KSA992
R513SR 470K
C505SR 33P-R(500V)
R506SR 33K
C506SR 100/10
R505SR 33K
R507SR 1K8
R508SR 47K
Q504SR KSC1845
R509SR 1K2(NB)-R
C507SR 2N2-M
R510SR 470
R511SR 47(NB)-R
CN505
NF5
NF5
GND
FR
FR
+15V
C501M 10/35

▬ SIGNAL LINE

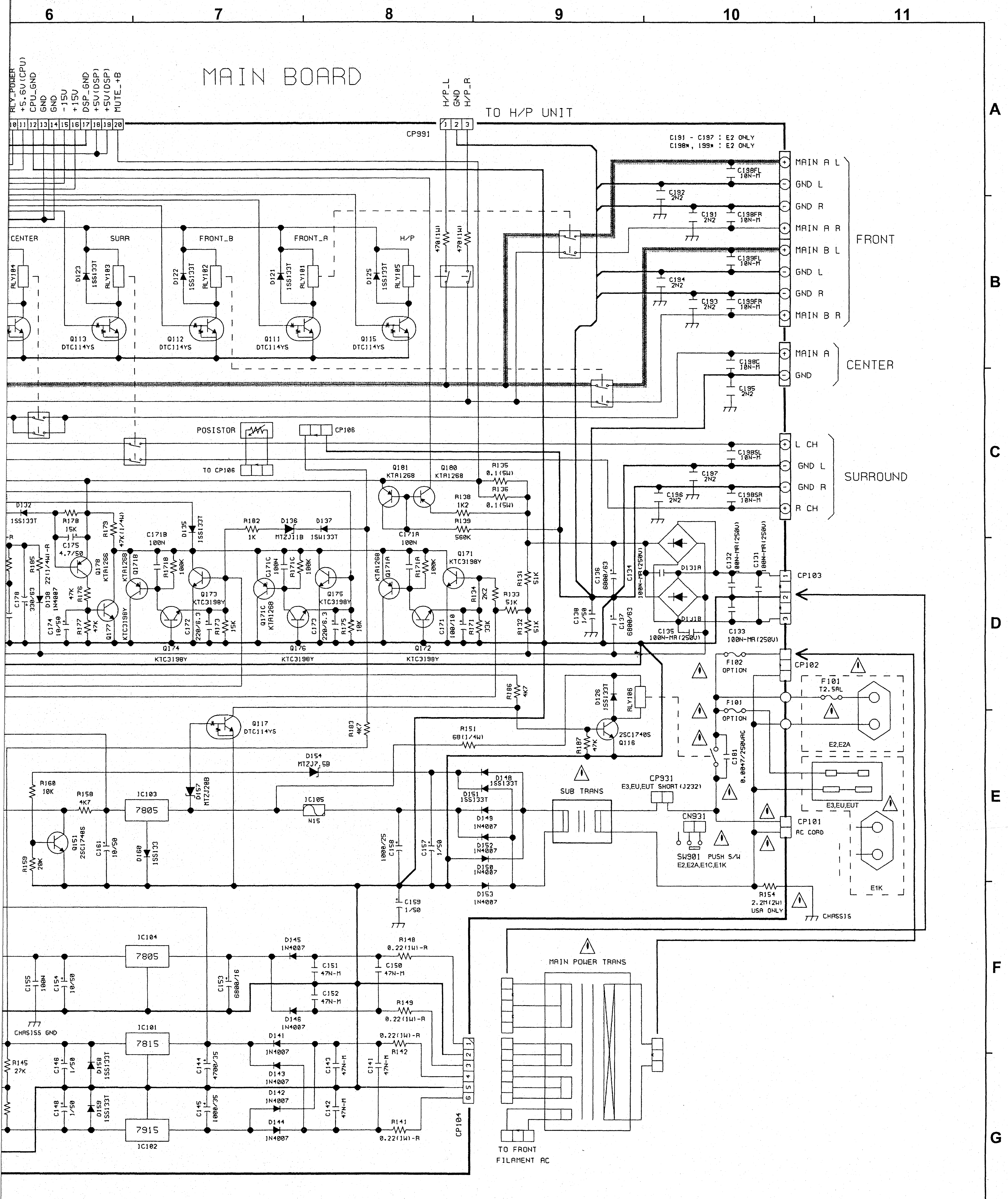
SCHEMATIC DIAGRAMS (4/7)
CNT UNIT
PRE-AMP UNIT

SCHEMATIC DIAGRAMS (5/7)



FROM PRE AMP UNIT
CP505
CP504
CP503
CP502
CP501
SR
SL
C
FR
FL
+15V
NF5
NF4
NF3
NF2
NF1
F/L
-B
G
TP105
TP104
TP103
TP102
TP101
Q101SR 2SD2389
Q102SR 2SB1559
Q103SR 2SC947F
Q104SR KSC1845
D105 1SS133T
L101SR 1mH
C101SR 47/50
C102SR 10/50
C103SR 100P-R(500V)
C104SR 100P-R(500V)
C105SR 22N
C107SR 100N-MR(250)
R101SR 2.7K
VR105 1K(B)-H
R103SR 3K
R104SR 5K6(1W)-R
R105SR 5K6(1W)-R
R106SR 4R7(1W)-R
R107SR 4R7(1W)-R
R108SR R22(1W)-R
R109SR R22(1W)-R
R110SR R22(1W)-R
R111SR R22(1W)-R
R112SR 10K
R113SR 330K
R114SR 20K
R115SR 2K2
R118SR 10(1W)-R
R119SR 10(1W)-R
R117SL 22K
R117SR 22K
R117C 22K
R117FR 22K
R117FL 22K
C182 10/100
R184 10(1W)-R
GND
DSP_GND
TO CONNECTION UNIT
CP553
1 -VKK
2 RLY_SPK_A
3 RLY_SPK_B
4 PROTECT
5 LIMIT
6 H/P_MUTE
7 RLY_CNT
8 RLY_SURR
9 PWR_DOWN
10 RLY_POWER
11 +5.6V(CPU)
12 CPU_GND
13 GND
14 GND
15 -15V
16 +15V
17 DSP_GND
18 +5V(DSP)
19 +5V(DSP)
20 MUTE_+B
Q179 2SA816
Q178 KTA1266
Q177 KTC3198Y
Q171B KTA1268
Q151 2SC1740S
Q114 DTC114YS
Q113 DTC114YS
D124 1SS133T
D123 1SS133T
RLY104
RLY103
CENTER
SURR
D133 MTZJ18B
D134 MTZJ18B
D138 1N4007
D132 1SS133T
D159 1SS133T
D158 1SS133T
C177 1/50
C176 1/50
C178 330/63
C174 10/50
C175 4.7/50
C148 1/50
C146 1/50
C155 100N
C154 10/50
C161 10/50
R146 27K
R147 27K
R145 27K
R159 20K
R160 10K
R158 4K7
R180 10K
R181 4R7(1W)-R
R185 22(1/4W)-R
R176 47K
R177 47K
R178 15K
R179 47K(1/4W)
CHASSIS GND
DC_PROTECT
PROTECT_SENSE
OVL_PROTECT
1
2
3
4
5
6

⚠ INDICATES SAFETY CRITICAL COM
TO REDUCE THE RISK OF ELECTRIC SH
CURRENT OR RESISTANCE MEASUREMEN
CARRIED OUT (EXPOSED PARTS ARE
INSULATED FROM THE SUPPLY CIRCUI
THE APPLIANCE RETURNED TO THE CU


6
7
8
9
10
11
A
B
C
D
E
F
G
H
MAIN BOARD
RLY_POWER
+5.6V(CPU)
CPU_GND
GND
GND
-15V
+15V
DSP_GND
+5V(DSP)
+5V(DSP)
MUTE_+B
H/P_L
GND
H/P_R
TO H/P UNIT
CP991
C191 - C197 : E2 ONLY
C198*, 199* : E2 ONLY
MAIN A L
GND L
GND R
MAIN A R
MAIN B L
GND L
GND R
MAIN B R
FRONT
MAIN A
GND
CENTER
L CH
GND L
GND R
R CH
SURROUND
CENTER
SURR
FRONT_B
FRONT_A
H/P
RLY104
RLY103
RLY102
RLY101
RLY105
D123
D122
D121
D125
1SS133T
Q113
Q112
Q111
Q115
DTC114YS
470(1W)
POSISTOR
TO CP106
CP106
Q181
KTA1268
Q180
KTA1268
R135
0.1(5W)
R136
0.1(5W)
R138
1K2
R139
560K
R182
1K
D136
MTZJ11B
D137
1SW133T
D135
1SS133T
D132
R178
15K
R179
47K(1/4W)
C175
4.7/50
R185
22(1/4W)-R
C178
330/63
D138
1N4007
C174
10/50
R177
47K
R176
47K
Q178
KTA1266
Q177
KTC3198Y
Q171B
KTA1268
R171B
100K
C171B
100N
Q173
KTC3198Y
Q174
KTC3198Y
C172
220/6.3
R173
15K
Q171C
KTA1268
C171C
100N
R171C
100K
Q175
KTC3198Y
Q176
KTC3198Y
C173
220/6.3
R175
10K
Q171A
KTA1268
C171A
100N
R171A
100K
Q171
KTC3198Y
Q172
KTC3198Y
C171
100/10
R171
33K
R134
2K2
R133
51K
R131
51K
R132
51K
C136
6800/63
C138
1/50
C137
6800/63
C134
100N-MR(250V)
D131A
D131B
C135
100N-MR(250V)
C132
100N-MR(250V)
C131
100N-MR(250V)
C133
100N-MR(250V)
C192
2N2
C191
2N2
C198FL
10N-M
C198FR
10N-M
C194
2N2
C193
2N2
C199FL
10N-M
C199FR
10N-M
C198C
10N-M
C195
2N2
C198SL
10N-M
C197
2N2
C196
2N2
C198SR
10N-M
CP103
CP102
F102
OPTION
F101
OPTION
F101
T2.5AL
E2,E2A
E3,EU,EUT
E1K
C181
0.0047/250VAC
CP101
AC CORD
R154
2.2M(2W)
USA ONLY
CHASSIS
R186
4K7
R183
4K7
Q117
DTC114YS
D126
1SS133T
RLY106
R151
68(1/4W)
R187
47K
2SC1740S
Q116
D154
MTZJ7.5B
D157
MTZJ20B
D148
1SS133T
D151
1SS133T
D149
1N4007
D152
1N4007
D150
1N4007
D153
1N4007
SUB TRANS
CP931
E3,EU,EUT SHORT(J232)
CN931
SW901 PUSH S/W
E2,E2A,E1C,E1K
R160
10K
R158
4K7
IC103
7805
IC105
N15
Q151
2SC1740S
R159
20K
C161
10/50
D160
1SS133
C158
1000/25
C157
1/50
C159
1/50
IC104
7805
C155
100N
C154
10/50
C153
6800/16
CHASSIS GND
D145
1N4007
C151
47N-M
C150
47N-M
R148
0.22(1W)-R
C152
47N-M
D146
1N4007
R149
0.22(1W)-R
IC101
7815
R145
27K
C146
1/50
D158
1SS133T
C144
4700/35
D141
1N4007
D143
1N4007
C143
47N-M
C141
47N-M
R142
0.22(1W)-R
C148
1/50
D159
1SS133T
C145
1000/35
D142
1N4007
D144
1N4007
C142
47N-M
R141
0.22(1W)-R
IC102
7915
CP104
MAIN POWER TRANS
TO FRONT
FILAMENT AC

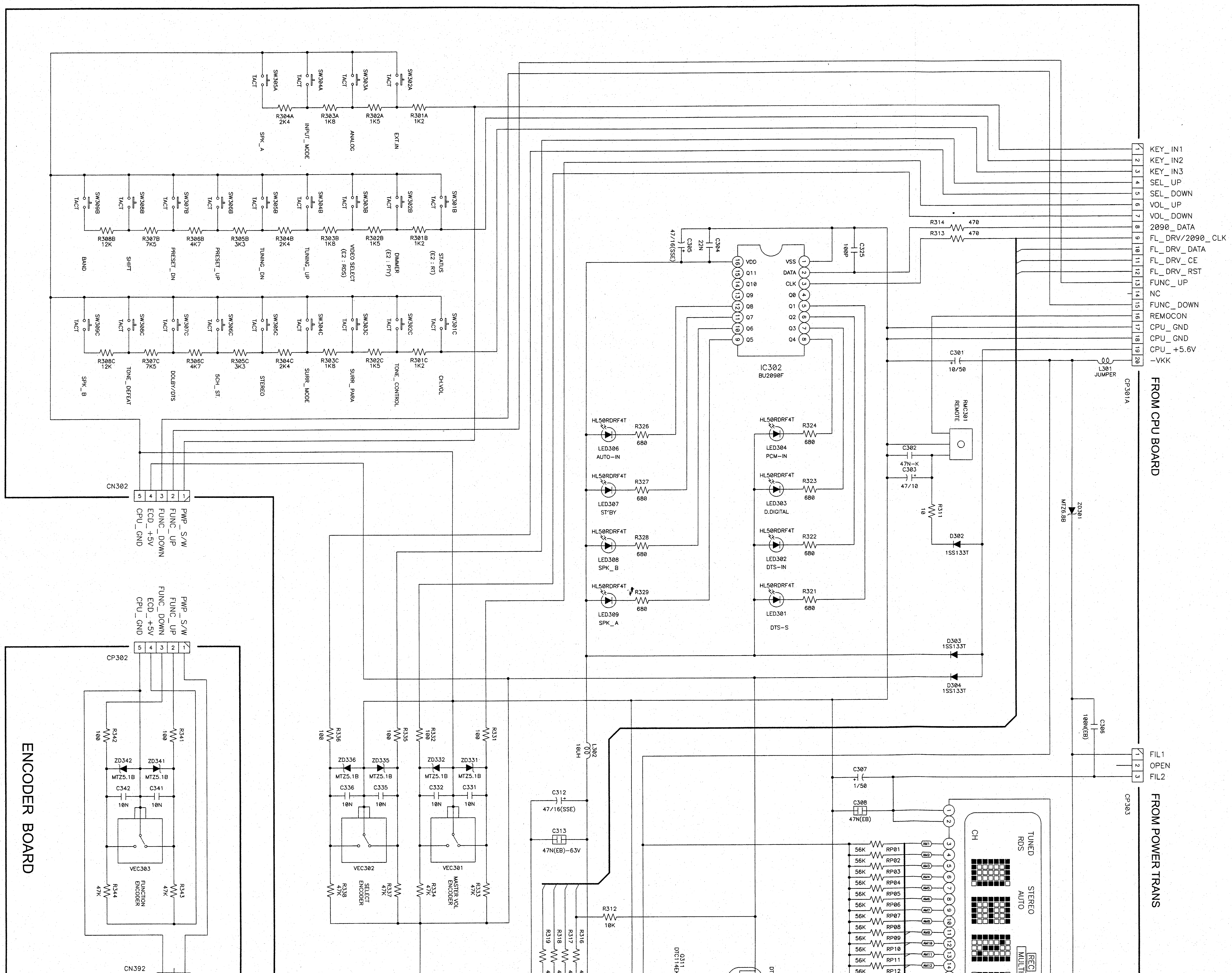
FETY CRITICAL COMPONENTS.
ISK OF ELECTIC SHOCK, LEAKAGE
STANCE MEASUREMENTS SHALL BE
XPOSED PARTS ARE ACCEPTABLY
THE SUPPLY CIRCUIT) BEFORE
ETURNED TO THE CUSTOMER.

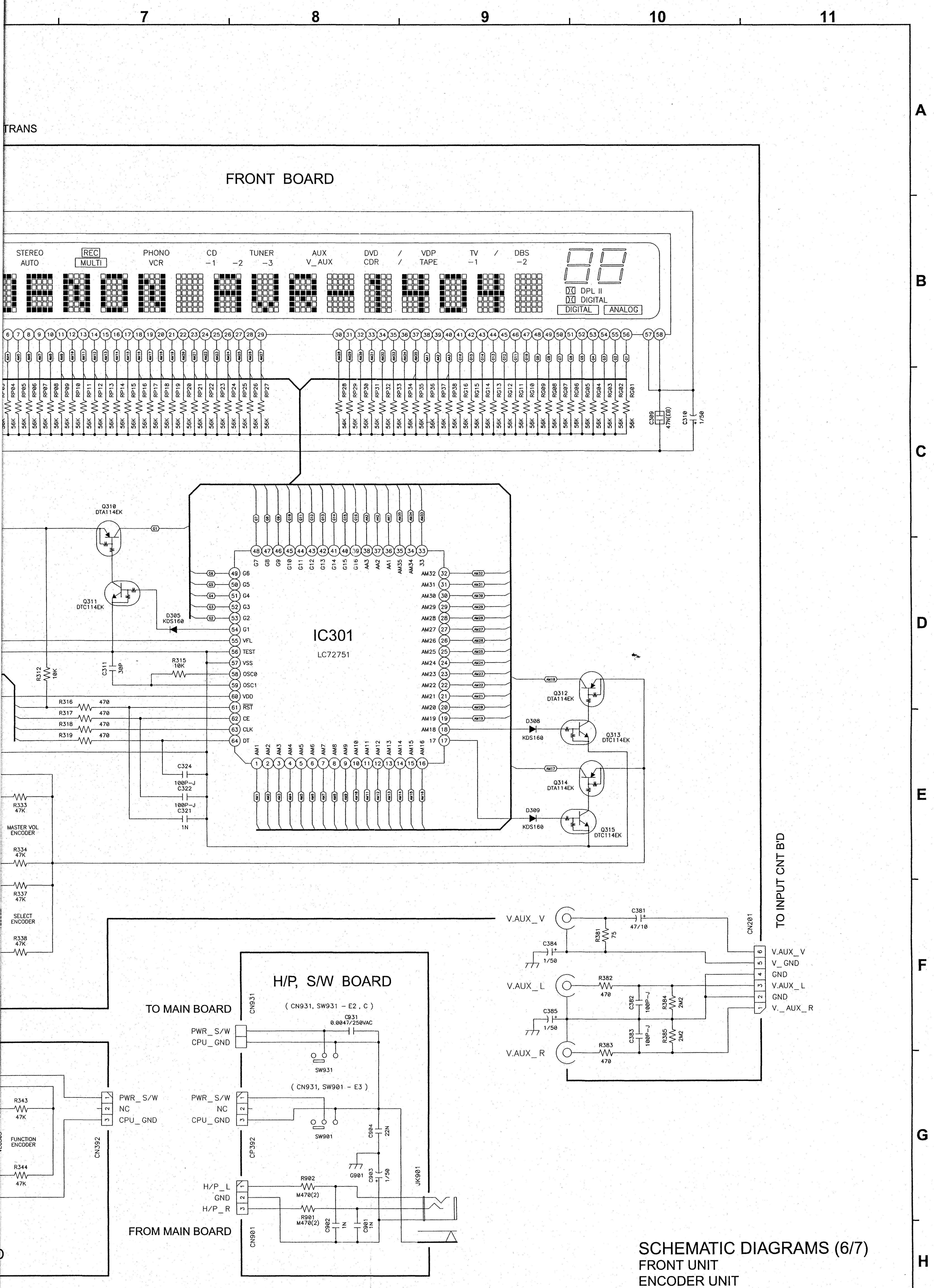
AVR-1404	F101	F102
E3,EU,EUT	8A/125V	8A/125V
E2	T2.5AL	T3.15AL
E1C	X	T3.15AL
E2A,E1K	T2.5AL	T3.15AL

▬ SIGNAL LINE

SCHEMATIC DIAGRAMS (5/7)
MAIN UNIT

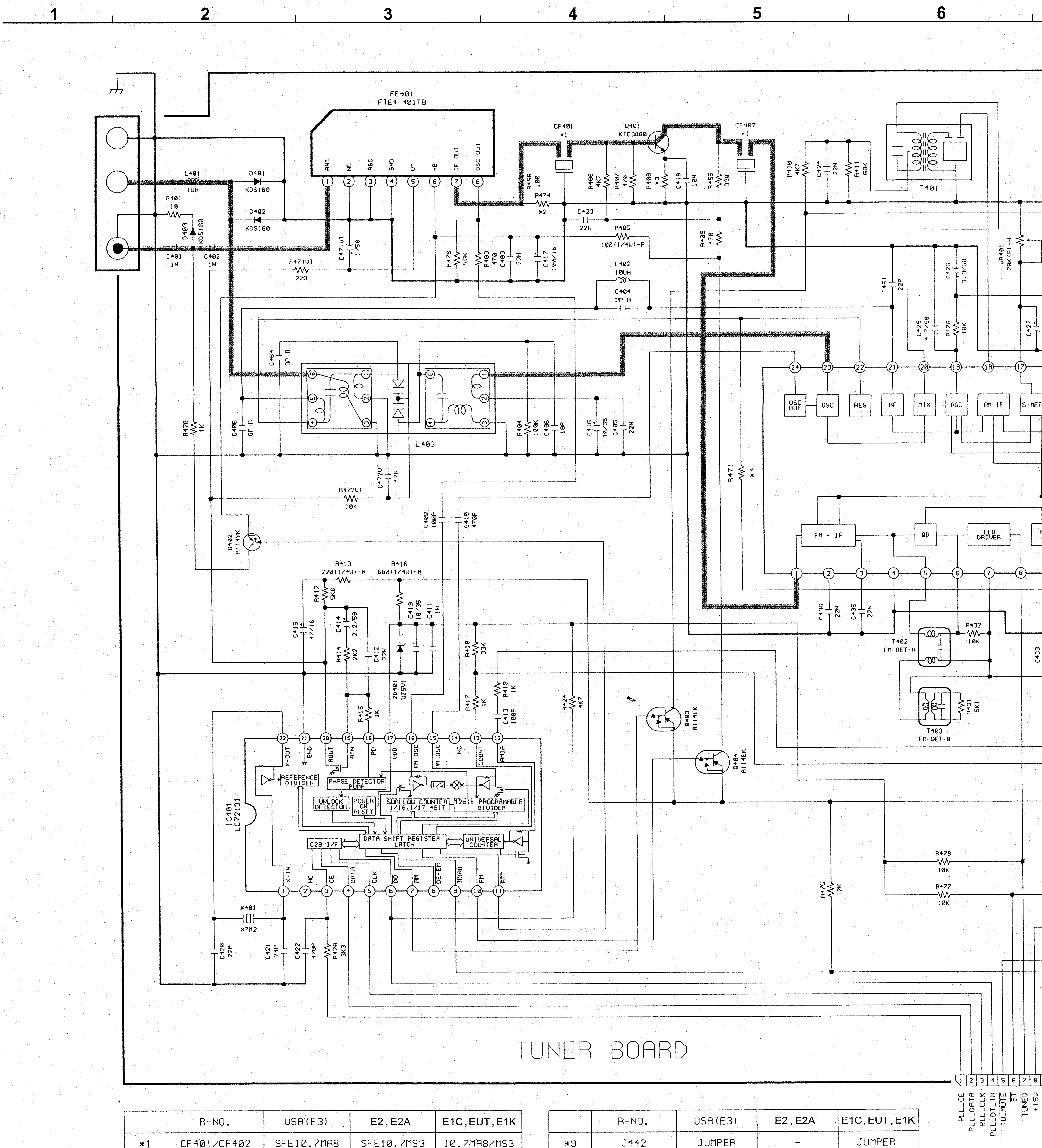
SCHEMATIC DIAGRAMS (6/7)


KEY_IN1
KEY_IN2
KEY_IN3
SEL_UP
SEL_DOWN
VOL_UP
VOL_DOWN
2090_DATA
FL_DRV/2090_CLK
FL_DRV_DATA
FL_DRV_CE
FL_DRV_RST
FUNC_UP
NC
FUNC_DOWN
REMOCON
CPU_GND
CPU_GND
CPU_+5.6V
-VKK
CP301A
FROM CPU BOARD
FIL1
OPEN
FIL2
CP303
FROM POWER TRANS
SW302A
SW303A
SW304A
SW305A
TACT
R301A 1K2
R302A 1K5
R303A 1K8
R304A 2K4
EXT.IN
ANALOG
INPUT_MODE
SPK_A
SW301B
SW302B
SW303B
SW304B
SW305B
SW306B
SW307B
SW308B
SW309B
R301B 1K2
R302B 1K5
R303B 1K8
R304B 2K4
R305B 3K3
R306B 4K7
R307B 7K5
R308B 12K
STATUS (E2 : RT)
DIMMER (E2 : PTY)
VIDEO SELECT (E2 : RDS)
TUNING_UP
TUNING_DN
PRESET_UP
PRESET_DN
SHIFT
BAND
SW301C
SW302C
SW303C
SW304C
SW305C
SW306C
SW307C
SW308C
SW309C
R301C 1K2
R302C 1K5
R303C 1K8
R304C 2K4
R305C 3K3
R306C 4K7
R307C 7K5
R308C 12K
CH.VOL
TONE_CONTROL
SURR_PARA
SURR_MODE
STEREO
5CH_ST.
DOLBY/DTS
TONE_DEFEAT
SPK_B
CN302
PWP_S/W
FUNC_UP
FUNC_DOWN
ECD_+5V
CPU_GND
CP302
ENCODER BOARD
CN392
R314 470
R313 470
C305 47/16(SSE)
C304 22N
C325 100P
IC302
BU2090F
VDD
Q11
Q10
Q9
Q8
Q7
Q6
Q5
VSS
DATA
CLK
Q0
Q1
Q2
Q3
Q4
C301 10/50
L301 JUMPER
RMC301 REMOTE
C302 47N-K
C303 47/10
R311 10
D302 1SS133T
ZD301 MTZ6.8B
D303 1SS133T
D304 1SS133T
HL50RDRF4T
LED306 AUTO-IN
LED307 ST'BY
LED308 SPK_B
LED309 SPK_A
LED304 PCM-IN
LED303 D.DIGITAL
LED302 DTS-IN
LED301 DTS-S
R326 680
R327 680
R328 680
R329 680
R324 680
R323 680
R322 680
R321 680
R342 100
R341 100
ZD342 MTZ5.1B
ZD341 MTZ5.1B
C342 10N
C341 10N
VEC303
R344 47K
R343 47K
FUNCTION ENCODER
R336 100
R335 100
R332 100
R331 100
ZD336 MTZ5.1B
ZD335 MTZ5.1B
ZD332 MTZ5.1B
ZD331 MTZ5.1B
C336 10N
C335 10N
C332 10N
C331 10N
VEC302
VEC301
R338 47K
R337 47K
R334 47K
R333 47K
SELECT ENCODER
MASTER VOL ENCODER
L302 10UH
C312 47/16(SSE)
C313 47N(EB)-63V
R312 10K
R319
R318
R317
R316
Q311 DTC114E
C306 100N(EB)
C307 1/50
C308 47N(EB)
56K
RP01
RP02
RP03
RP04
RP05
RP06
RP07
RP08
RP09
RP10
RP11
RP12
TUNED RDS
CH
STEREO AUTO
REC MULTI


7
8
9
10
11
A
B
C
D
E
F
G
H
TRANS
FRONT BOARD
STEREO AUTO
REC MULTI
PHONO VCR
CD -1 -2
TUNER -3
AUX V_AUX
DVD / CDR
/ VDP TAPE
TV / -1
DBS -2
DPL II
DIGITAL
DIGITAL
ANALOG
C309 47N(EB)
C310 1/50
IC301
LC72751
Q310 DTA114EK
Q311 DTC114EK
D305 KDS160
R312 10K
C311 30P
R315 10K
R316 470
R317 470
R318 470
R319 470
C324
C322 100P-J
C321 100P-J
1N
Q312 DTA114EK
D308 KDS160
Q313 DTC114EK
Q314 DTA114EK
D309 KDS160
Q315 DTC114EK
R333 47K
MASTER VOL ENCODER
R334 47K
R337 47K
SELECT ENCODER
R338 47K
R343 47K
FUNCTION ENCODER
R344 47K
CN392
PWR_S/W
NC
CPU_GND
H/P, S/W BOARD
TO MAIN BOARD
CN931
(CN931, SW931 - E2 , C)
C931 0.0047/250VAC
SW931
(CN931, SW901 - E3)
CP392
SW901
C904 22N
G901
C903 1/50
JK901
R902 M470(2)
R901 M470(2)
C902 1N
C901 1N
H/P_L
GND
H/P_R
CN901
FROM MAIN BOARD
V.AUX_V
V.AUX_L
V.AUX_R
C381 47/10
R381 75
C384 1/50
R382 470
C382 100P-J
R384 2M2
C385 1/50
C383 100P-J
R385 2M2
R383 470
CN201
TO INPUT CNT B'D
V.AUX_V
V_GND
GND
V.AUX_L
GND
V._AUX_R

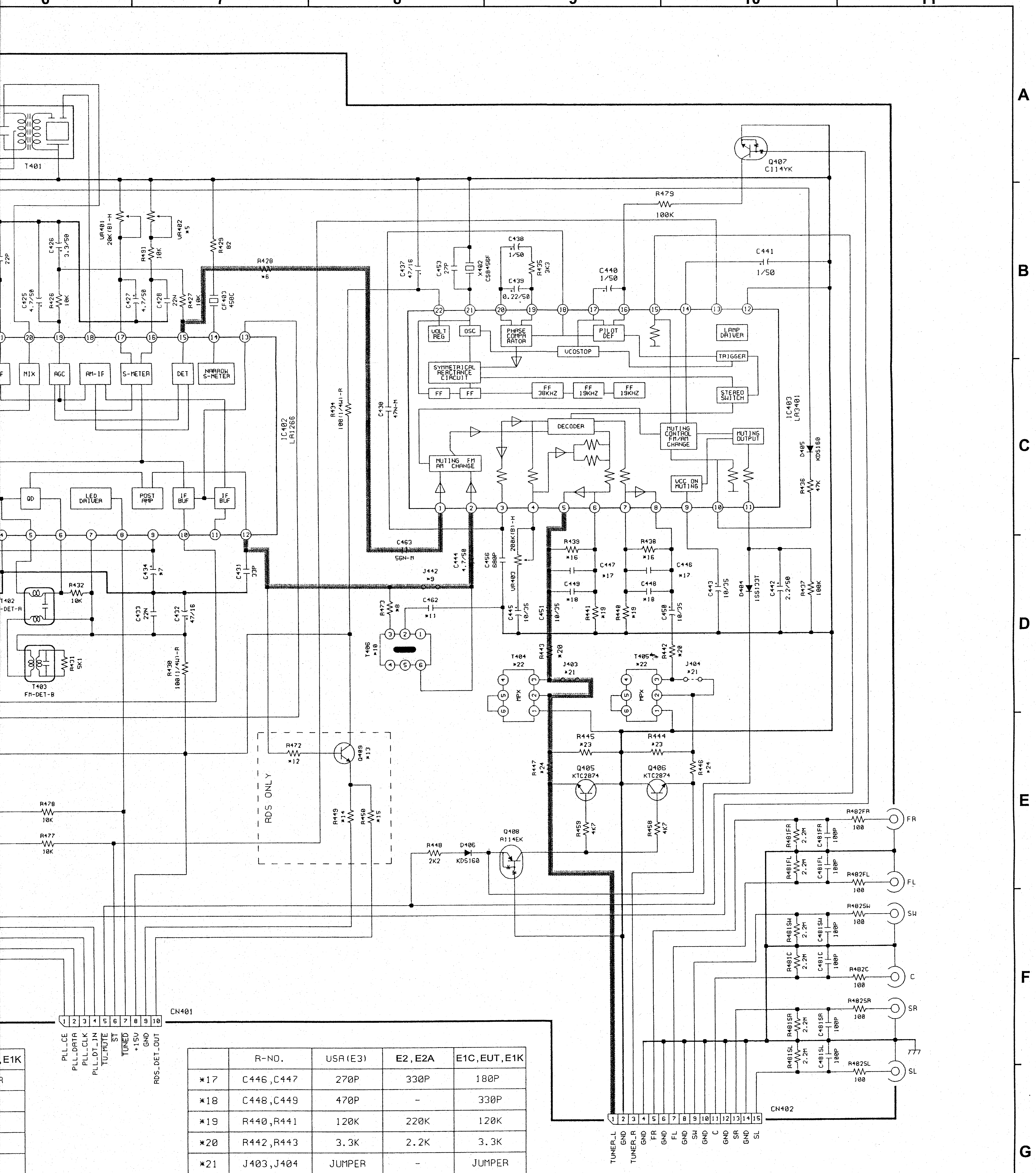
SCHEMATIC DIAGRAMS (6/7)
FRONT UNIT
ENCODER UNIT
H/P & S/W UNIT

SCHEMATIC DIAGRAMS (7/7)


1
2
3
4
5
6
TUNER BOARD
FE401
FTE4-401TB
ANT
NC
AGC
GND
VT
+B
IF OUT
OSC OUT
CF401 *1
Q401 KTC3880
CF402 *1
L401 1UH
D401 KDS160
D402 KDS160
D403 KDS160
R401 10
C401 1N
C402 1N
C471UT 1/50
R471UT 220
R456 100
R474 *2
R406 4K7
R407 470
R408 *3
C418 10N
R455 330
R409 470
C423 22N
R405 100(1/4W)-R
L402 10UH
C404 2P-R
R476 56K
R403 470
C403 22N
C417 100/16
R410 4K7
C424 22N
R411 68K
T401
VR401 20K(B)-H
C461 22P
C425 4.7/50
R426 10K
C426 3.3/50
C427
C464 3P-R
R470 1K
C408 6P-R
L403
R404 100K
C406 18P
C416 10/35
C405 22N
C472UT 47N
R472UT 10K
R471 *4
C409 100P
C410 470P
Q402 A114YK
OSC BUF
OSC
REG
RF
MIX
AGC
AM-IF
S-MET
FM - IF
QD
LED DRIVER
C436 22N
C435 22N
R432 10K
T402 FM-DET-A
T403 FM-DET-B
R431 5K1
C433
R413 220(1/4W)-R
R416 680(1/4W)-R
R412 5K6
C415 47/16
C414 2.2/50
C412 22N
R414 2K2
C419 10/35
C411 1N
ZD401 UZ5V1
R415 1K
R418 33K
R417 1K
R419 1K
C413 100P
R424 4K7
Q403 A114EK
Q404 A114EK
IC401 LC72131
X-OUT
GND
AOUT
AIN
PD
VDD
FM OSC
AM OSC
NC
COUNT
AMIF
REFERENCE DIVIDER
PHASE DETECTOR PUMP
UNLOCK DETECTOR
POWER ON RESET
SWALLOW COUNTER 1/16,1/17 4BIT
1/2
12bit PROGRAMABLE DIVIDER
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
C2B I/F
X-IN
NC
CE
DATA
CLK
DO
AM
DE-EM
MONO
FM
ATT
X401 X7H2
C420 22P
C421 24P
C422 470P
R420 3K3
R478 10K
R477 10K
R475 12K
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V

	R-NO.	USA(E3)	E2,E2A	E1C,EUT,E1K
*1	CF401/CF402	SFE10.7MA8	SFE10.7MS3	10.7MA8/MS3
*2	R474	-	180	-
*3	R407/R408	470/1.2K	620/680	620/1.2K
*4	R471	18K	39K	39K
*5	VR402	50KB	100KB	50KB
*6	R428	3.3K	10K	6.8K
*7	C434	1/50	0.33/50	0.33/50
*8	R473	-	2.4K	-

	R-NO.	USA(E3)	E2,E2A	E1C,EUT,E1K
*9	J442	JUMPER	-	JUMPER
*10	T406	-	ANTI-BIRDIE	-
*11	C462	-	470P	-
*12	R472	-	100	-
*13	Q409	-	KTC3880	-
*14	R449	-	3.9K	-
*15	R450	-	1K	-
*16	R438,R439	100K	150K	100K


6
7
8
9
10
11
A
B
C
D
E
F
G
T401
Q407
C114YK
R479
100K
IC402
LA1266
IC403
LA3401
VOLT REG
OSC
PHASE COMPA RATOR
PILOT DEF
VCOSTOP
LAMP DRIVER
TRIGGER
SYMMETRICAL REACTANCE CIRCUIT
FF
FF 38KHZ
FF 19KHZ
FF 19KHZ
STEREO SWITCH
DECODER
MUTING CONTROL FM/AM CHANGE
MUTING OUTPUT
MUTING FM AM CHANGE
VCC ON MUTING
MIX
AGC
AM-IF
S-METER
DET
NARROW S-METER
QD
LED DRIVER
POST AMP
IF BUF
IF BUF
CF403
450C
X402
CSB456F
T402
T403
FM-DET-B
T404
T405
T406
MPX
J403
J404
J442
RDS ONLY
Q409
Q405
KTC2874
Q406
KTC2874
Q408
A114EK
D404
1SS133T
D405
KDS160
D406
KDS160
CN401
PLL_CE
PLL_DATA
PLL_CLK
PLL_DT_IN
TU_MUTE
ST
TUNED
+15V
GND
RDS_DET_OUT
CN402
TUNER_L
GND
TUNER_R
GND
FR
GND
FL
GND
SW
GND
C
GND
SR
GND
SL
FR
FL
SW
C
SR
SL

	R-NO.	USA(E3)	E2,E2A	E1C,EUT,E1K
*17	C446,C447	270P	330P	180P
*18	C448,C449	470P	-	330P
*19	R440,R441	120K	220K	120K
*20	R442,R443	3.3K	2.2K	3.3K
*21	J403,J404	JUMPER	-	JUMPER
*22	T404,T405	-	LPF(MPX)	-
*23	R444,R445	8.2K	3.3K	8.2K
*24	R446,R447	JUMPER	470	JUMPER

▬ SIGNAL LINE

SCHEMATIC DIAGRAMS (7/7)
TUNER UNIT